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ABSTRACT

"OATYC Journal," which is published by the Ohio Association of Two-Year Colleges, is designed as a forum for the exchange of concepts, methods, and findings relevant to the two-year college classroom. Along with commentaries and letters of reaction from the readership, the two issues of volume IX present the following major articles: (1) "Focus: Muskingum Area Technical College," by Bruce Humphrey and others; (2) "Cooperative Composition: The Team Research Paper," by Barbara P. Thompson; (3) "A Nation at Risk: The Report of the National Commission on Excellence in Education," by Milton Goldberg and James Harvey; (4) "Issue: Should General Studies Be a Separate Division in a Technical College?" by Carolyn R. Craft and Larry C. Edwards; (5) DACUM Study: Technical Writing," by Timothy Nolan and Marc Green; (6) "Focus: Happy Birthday, Community and Technical College, the University of Akron," by Joe Arnold and others; (7) "The Search Process: From the Outside Looking in," by James McLaughlin; (8) "Teach Thinking in the Technical Classroom," by Marc Newman; (9) " College without Walls at Sinclair Community College, " by Gordon Cowperthwaite; (10) "The Ohio Technology Transfer Organization and Its Role with Two-Year Technical Education in Ohio," by Kim Bonewit; (11) "An Open Formula for Effective Communication," by Jane Durverry; (12) "Issue: Should Merit Pay Be Used to Reward Outstanding Teachers in Two-Year Colleges?" by Anne R. Peterson and Jack Tabor; (13) "One Way to Help Nontraditional Students Increase in Persistence and Competence," by Betty M. Dietsch; and (14) "Washington Tech Looks to a New Space Age," by Ann Tiber. (EJV)

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THE OHIO ASSOCIATION OF TWO-YEAR COLLEGES

OATYC JOURNAL

VOL. IX No. 1 Autumn 1983
VOL. IX No. 2 Spring 1984

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JOURNAL

VOL. IX NO. 1 AUTUMN 1983

OHIO ASSOCIATION OF TWO-YEAR COLLEGES

THIS ISSUE

COMMENT

Articulation-It's Everybody's Business

Presidential Reflections: Ohio at the Crossroads

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Cooperative Composition: The Team Research Paper

PLUS ONE

A Nation at Risk: The Report of the National Commission in Excellence in Education

FORUM

Issue: Should General Studies Be a Separate Division in a Technical College?

PRACTICUM

DACUM Study: Technical Writing

REACTION

Because This Doesn't Look Like Kansas Anymore

Response to "What Works Best in Developmental Education"

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OHIO ASSOCIATION OF TWO-YEAR COLLEGES

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Focus: Happy Birthday, Community and Technical College, The University of Akron

The Search Process: From the Outside Looking In

Teach Thinking in the Technical Classroom

College without Walls at Sinclair Community College

The Ohio Technology Transfer Organization and its Role with Two-Year Technical Education in Ohio

PLUS ONE

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Cooperative Criticism

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OHIO ASSOCIATION OF TWO-YEAR COLLEGES

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Dr. James D. Fullen, Editor
Ohio Association of Two-Year Colleges
Central Ohio Technical College
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OATYC Provides:

—Collective influence on the future direction of Ohio's two-year campus system;
—Access to low-cost classroom liability insurance protection of $300,000;
—An open forum for the discussion of trends, problems, accomplishments, and challenges unique to state-assisted, two-year campuses;
—A newsletter which informs members of the proceedings and activities of OATYC and of Ohio's two-year campuses;
—The *Journal* which provides an opportunity for publication and exchange of scholarly views and concepts;
—Conference and workshops providing opportunities for professional development, visits to other two-year campuses, presentation of papers, and socialization with other two-year campus personnel.

Purposes:

—To provide a forum in which all state-assisted, two-year campuses can meet to discuss and resolve mutual problems;
—To foster cooperation and communication among Ohio's institutions of higher education;
—To provide the viewpoint of the state-assisted, two-year campuses to the Ohio Board of Regents and to the State Legislature;
—To identify and improve the status, prestige, and welfare of all state-assisted, two-year campuses in Ohio, and to other activities which will increase the contribution of state-assisted two-year campuses to Ohio's total educational process.

Summary of Coverage For The Teacher's Liability Policy

"To pay all sums which the insured (teacher) shall become legally obligated to pay, arising out of his teaching pursuits. The policy carries a limit of $300,000. Defense costs are included over and above the $300,000 limit. The policy covers damage from Bodily Injury, Property Damage, and Corporal Punishment. The three-year premium is $30.00 for lab coverage and $20.00 for non-lab coverage." (The above is a summary. It is not a full explanation of charges. For an exact interpretation of the coverages, the actual policy must be reviewed.)

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JOURNAL
OF THE
Ohio Association of Two-year Colleges

VOL. IX No. 1 Autumn 1983

The *Journal of The Ohio Association of Two-Year Colleges* is published by the Association to provide the two-year colleges of Ohio with a medium for the sharing of concepts, methods and findings relevant to the two-year college classroom and to provide an open forum for problem discussion and review.

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The Ohio Association of Two-Year Colleges
c/o Dr. Rae Rohfeld
Cuyahoga College, Metro
2900 Community College Avenue
Cleveland, OH 44115

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COMMENT

ARTICULATION - IT'S EVERYBODY'S BUSINESS

Vic Karhan

"Articulation - It's Everybody's Business" is the theme of the Ohio Association of Two-Year Colleges (OATYC) fall conference which will be held November 3 and 4 at Lakeland Community College.

Several interesting activities and events are scheduled at Lakeland Community College and the nearby Lakeland Inn. Registration for the two-day conference starts at 3 p.m. Thursday in A-2020 at the college. Campus tours, including the new Engineering Technology Laboratory Building, will be conducted.

At 5:30 p.m. Thursday registration will continue at the Lakeland Inn. A reception will follow and lead to a 6:30 p.m. dinner at the Lakeland Inn. Cuyahoga Community College President Dr. Nolan M. Ellison will speak about "Putting America Back to Work". Another reception will follow dinner.

Registration will also be conducted at 8 a.m. Friday in room A-2020 at the college. Continental breakfast will be available at the college at 8:15 a.m.

The OATYC business meeting will be held at 8:30 a.m. and seminar sessions will be held from 9 a.m. to noon at the college. Several interesting seminars are scheduled featuring speakers from Ohio community colleges and universities. Several noted state officials will also speak. The series of hourly talks will deal with articulation from high school to college, articulation through the institution, articulation into four-year degrees and articulation into business and industry.

After a 12:15 p.m. lunch at the Lakeland Inn, seminar sessions will continue at 2 p.m. An evaluation will be done at 3 p.m. and adjournment will be at 3:30 p.m.

Vic Karhan
President-Elect
OATYC

IMPORTANT ANNOUNCEMENT

Governor Richard F. Celeste has graciously agreed to participate in our Autumn Conference. The Governor will address the Association on Friday, November 4, in the early afternoon.

Dr. Paul R. Treece
President
OATYC

PRESIDENTIAL REFLECTIONS: OHIO AT THE CROSSROADS

Paul R. Treece, OATYC President

On November 8, 1983, Ohio voters will determine the directions the state will follow for the balance of this century. Of the two crucial issues on which Ohio citizens will vote, Issue 2 has the more serious long-term consequences. If approved, a simple majority will no longer be adequate for the state legislature to enact new taxes. Issue 2 is a constitutional amendment which will require any new taxes to be approved by three-fifths of the legislature. Issue 2 backers ignore, but probably are not ignorant of the fact that no tax issue in Ohio has ever been decided by a 60% majority. If wheeling and dealing were necessary to pass a tax increase by a simple majority, can you imagine what type of shabby deals would be necessary to get 60% of the legislators behind the unpopular task of raising taxes? Issue 2 is a blatant assault on the democratic principle of majority rule and deserves to be soundly defeated.

Issue 3 would repeal the recently enacted tax increases and mark a return to government by crisis. New, higher state taxes are inevitable. The previous administration, in power for most of the last two decades, continually appealled to the masses of Ohio voters with the slogan of no new taxes. Obviously the slogan had (and still has) great appeal. At the same time, the former administration borrowed huge sums of money for capital projects. Ohio's bonded indebtedness was relatively small prior to the 1960s. Today, debt service has become a substantial part of the state's budget. The former administration didn't burden taxpayers with new taxes but shoved much of the burden of paying for these construction projects of the 1960s and 1970s onto the taxpayers of the 1980s, 1990s, and beyond.

Beginning in the 1960s and greatly accelerating during the Vietnam War, inflationary pressures have been building. These pressures are still with us. The effect on state governments and other public institutions was/is severe. In spite of the fact that everything costs more, Ohioans apparently were seduced by the illusion that new taxes were not necessary during the four terms of the previous administration. However, even the past administration could not continue to enjoy this fantasy forever and in its final months was forced to face up to the reality of the necessity for new taxes. Unfortunately, many politicians attempted to substitute one fantasy for another; taxes were increased only temporarily. The new fantasy appareatly was that the necessity for additional state revenue would eventually go away. The reality is that this necessity is not going to go away unless Ohioans are willing to allow their state to become fifth-rate.

Ohio is at the crossroads. The new administration in Washington, D.C. has embarked on a course of unilateral withdrawal of federal support for many vital services on which Americans depend. This precipitous action, regardless of its possible philosophical justification, could not have come at a worse time. While inflation was seriously eroding the states' purchasing power, unemployment was/is greatly cutting into the revenues the states anticipated and required. At the same time, the high level of unemployment greatly increased demands on tax-supported public services to assist our citizens in distress. Ohio has not been at the top of many lists recently but it has been near the top in terms of the unemployment rate. The vast majority of states have responded to the triple whammy of inflation, reckless unilateral withdrawal of federal support, and depression-level unemployment by raising taxes in the last few months. Ohio, hit harder than most, was no exception. The necessity for additional revenue was greater in Ohio than in almost any other state.

Ohio has been *and still is* a low tax state! Ohioans, in spite of the hefty increases this year, pay fewer state and local tax dollars than most other Americans and a lot less than any other industrial state. Including the recent increase, Ohioans rank 36th in per capita taxes. A 1980 federal study showed that in 48 of 54 state government jobs compared, Ohio's state employees were paid below the national average; in fact, Ohio's pay to its state employees ranked between 40th and dead last in half of the 54 job categories. Ohio is 47th in state tax support per student enrolled in higher education. Ohio students pay a significantly higher percentage of their cost of public postsecondary education than do students in the majority of states. With such high tuition, it is small wonder that Ohio ranks 46th in the rate of students attending public colleges and universities. Only 43% of Ohio's high school graduates continue their education. The national average is 53%. To come up to the national average, 16,700 first-year students would have to enroll in Ohio higher education institutions annually.

Low pay for state employees, high tuition, and a low level of support for public education does not bring to mind an attractive picture of a state whose citizens can afford to do better. The picture becomes grim, however, when one considers the consequences of repealing the new taxes and trying to turn back the clock to an era of government by crisis. The Ohio Board of Regents estimates that higher education will lose $250 million in 1984-85. Public primary and secondary education would fare no better. Capital improvement funding would dry up. Tuition rates would skyrocket. OSU President Jennings has estimated that tuition at his institution would go up at least 30% next year. Access to education would be greatly restricted and many lower-and middle-income citizens would be excluded. Even Ohio students at private colleges and universities would be excluded. Even Ohio students at private colleges and universities would be hard hit because state-supported financial aid would be cut. Educational quality would decline. Services would be curtailed. Programs and employees would be cut. If the state cannot support new programs to retrain unemployed Ohioans whose industrial skills have become obsolete in a changing world economy, is there any hope for our unfortunate citizens? What kind of society do we live in which would allow a significant number of its citizens to become superfluous, to have no hope for a better life? What kind of society will we become if the attack on the means to govern and the means to educate is allowed to be successful? Democracy depends on an educated public which collectively can make informed judgments. The issue is above politics. Republicans and Democrats should unite to defeat Issue 3. In the few days which remain before the elections, *you*, as an educator, should be hard at work to convince your friends, neighbors, relatives, and associates to defeat the attempt to turn back the clock. Ohio is at the crossroads.

Paul R. Treece
President
OATYC

TEXT

FOCUS: MUSKINGUM AREA TECHNICAL COLLEGE

BRUCE HUMPHREY, ET AL.

The JOURNAL features an Ohio two-year college campus in each of its editions. In this issue the JOURNAL highlights Muskingum Area Technical College. MATC has at the forefront a new concept to provide direct service to the local economy.

The founding of Muskingum Area Technical College can be traced to April, 1965, when the State of Ohio approved the creation of the Muskingum Area Joint Vocational School district. The State Department of Education, in cooperation with the Ohio Office of the Appalachia Regional Commission, designated Muskingum County as one of the areas to receive Appalachia funds for construction of a post-secondary technical education building along with a joint vocational school. In May, 1966, Muskingum County voters approved a levy and a bond issue for the newly created Muskingum Area Vocational School District and a grant of $1,642,000 was awarded for the construction of a technical institute.

From 1966 to 1969, the technical institute was administered by the joint vocational school board. During this time the institute's buildings were planned and constructed. Correspondent status was conferred by the North Central Association of Colleges and Secondary Schools, and The Ohio Board of Regents issued a charter. Two hundred seventy-nine students enrolled in the first class when Muskingum Area Technical Institute's doors opened in the fall of 1969. The building was located at 400 Richards Road, Zanesville, on the same campus with the vocational school. Ten career programs were offered.

The separation of the institute and the vocational school began in 1970 with the election of the MATI Board of Trustees. However, the positions of president of the institute and superintendent of the vocational school were jointly held by Mr. Walker Huffman until 1973. By that time Muskingum Tech and the State Board of Regents had substituted "College" for "Institute" and plans had been made for MATC to share the Zanesville campus with Ohio Univeristy on the west side of the city. A $3-million building for classrooms and laboratories was being planned and a $1-million common library and student center had been constructed. Total separation from the vocational school was complete with the appointment of Dr. Terry J. Puckett as president of MATC in 1973.

The College moved to the 179-acre campus shared with Ohio University in September, 1975. It assumed the 33 acres where it now has two classroom buildings and a law laboratory with indoor firing range. The second classroom building, Health Science Hall, was completed in 1979.

When Dr. Richard M. Libby was appointed to the presidency in February, 1981, a renewed effort at cooperative use of facilities was launched. MATC shares the cost of library operation and grounds maintenance. Zanesville Campus Library no longer has a librarian for each institution but instead shares a staff. The name of the campus has changed from the "MATC-OUZ Campus" to the "Zanesville Campus," thus symbolizing the greater unity.

From the beginning, MATC enrollment grew in a nearly straight upward line to 1,518 associate degree students in 1980. In 1982, a total of 1,701 students registered, including 1,422 associate degree students and 279 non-credit students. Total 1982 FTE was 1,022.1.

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MATC attracts students whose average age is 26. Many of them have spouses and children along with full- or part-time jobs. Frequently they drive long distances to reach the MATC campus. Activities for students leading otherwise fully scheduled lives are different than would be those at resident campuses. Each technology has a club which is open to all students within that study area. Most of these clubs sponsor fund-raising projects and social events. Daily shoulder-to-shoulder contact in the classroom and the sharing of similar interests bring students together in clusters according to individual technologies.

MATC has successfully held the line on tuition increases. Tuition of $300 per quarter is the second-lowest among all Ohio technical colleges which do not have a local tax levy. No major service to students has been eliminated.

The administrative decision-making process has undergone a thorough review since the arrival of Dr. Libby as president. To make MATC decisions more accurately reflect the needs and knowledge of students, faculty, and staff, a task force was formed to recommend a form of government which would accomplish this. The result has been a broad-based and highly participative governance structure which has been successfully employed for two years.

MATC is governed by a nine-member Board of Trustees to which the president reports. He is advised by the President's Cabinet, which is made up of three academic deans, the vice-president for student services, the Faculty Senate representative, the Student Senate representative, and the Staff Senate representative.

Deans' responsibilities are for the Division of Continuing Education; the Division of Health and Public Service Technologies and General Studies; and the Division of Business, Engineering, and Natural Science Technologies.

The Council of Academic Deans coordinates the college instructional area with other administrative units of the college. The council is composed of the dean of each division and the administrative assistant to the council. The council concept, created during the summer of 1981, enables academic deans to work in partnership as they coordinate and strengthen technical programs. The council guides the professional growth of the faculty, develops program offerings and conducts long-range planning. This form of governance enhances the responsiveness of academic programs to the needs of the community. While deans are directly concerned with activities specific to their individual divisions, the Council of Deans is concerned with college-wide academic improvements. The Council of Academic Deans is also responsible for ensuring that MATC curricula follow state and federal guidelines. It also acts as a coordinating group for construction of the college academic calendar. The council has developed a new college academic committee system in order to receive more input from faculty and students. The system hinges on the Academic Affairs Committee and its four subcommittees: Academic Excellence, Academic Policies and Procedures, Curriculum, and Scholarship Selection and Academic Events.

As of October 1, 1982, MATC faculty had 37 members. They represent 310.5 years of experience in their technological fields, 84.5 years of teaching experience in schools other than MATC and 231.5 years of teaching at MATC. The average number of years of experience in their fields in 8.39, of teaching experience elsewhere 2.28 and of MATC teaching experience 6.25.

At present, one faculty member holds a doctor's degree, 29 hold master's degrees and four hold bachelor's degrees.

The college offers degrees in 21 technical programs. They are accounting; agricultural production; business administration; child development; criminal justice; data processing; electrical/electronics; emergency medical; environmental resource management; industrial engineering; mechanical/industrial; medical assisting; medical laboratory; mental health; parks, recreation and wildlife; petroleum; radiologic; retail marketing and management; secretarial science; surveying; and associate of technical study (special needs).

Academic and non-academic programs have come under continuing review. To determine whether MATC programs are serving the needs of students and employers and whether those programs are effective in content and in cost-effectiveness for the college, Dr. Libby set up a Programmatic Review process for the gathering of data and analysis of trends concerning each program.

MATC graduates put their education on the line in the world of work. What happens here must be a legitimate prelude to what happens at the job site. Students must be equipped to deal with the most modern technological equipment and techniques. This is why the training provided at MATC must be real as defined by working technologists. Further, Muskingum Area Technical College must anticipate the future as much as possible and prepare students to meet those challenges of change.

It is through a network of advisory committees, one for each technology, that the college is linked to the real world. Members of these committees are employed in the technology they advise. Other than our faculty, no group of people should be better equipped to assess the validity of college instruction or predict technological futures with more accuracy than our advisors. Committees meet three times a year to verify the performance objectives as mapped by course syllabi. They match their opinions about what a student (1) should know, (2) be able to do, and (3) how well the student should perform duties. They spot any outmoded subjects and skills that may be built into course work, and they identify current and future subjects and skills required by employers.

Revision of existing models for personnel evaluation was begun soon after Dr. Libby arrived as president of MATC. The new president saw it as a high-priority item because personnel evaluation is vitally important to quality instruction. A conceptual faculty evaluation model has emerged form the work of the Council of Deans, the Faculty Senate and the president. It contains 16 categories such as curriculm, instructional methods, professional development, service to the college and community, and schorlarly activity. When complete, the model will list categories as either normal or meritorious activities.

MATC has been at the forefront of a new concept to provide direct service to the local economy. Dr. Libby conceived the idea for, and serves as chairman of the board of, the Training, Research and Assistance Cooperative Extension Service. TRACES is an association of educational institutions, state agencies and chambers of commerce which provides technological information and training assistance to business and industry in much the same way as the Cooperative Extension Service serves agriculture. Nearly two years old, TRACES has been highly active and has been commended as a model for similar agencies throughout the state by the Ohio Board of Regents.

Only 14 years have passed since Muskingum Area Technical College was established. This period has been filled with a multitude of academic strides and an onrush of students evermore aware of the values of technological education. MATC's mission is to educate these students in a way that will provide career opportunities—the opportunities for which they are best suited and which will be offered by business, industry and government. Only in that way can technological education claim to be presenting new opportunities for people of all ages and from all levels of economic, academic and technological achievement while providing a much-needed service to employers.

These technological "boom times" bring new challenges for educators. How

best to serve the accelerated demand while maintaining all the academic responsibilities that the term "college" implies is the gratifying challenge before us.

Bruce Humphrey, et al.
Coordinator of Public Information
Muskingum Area Technical College
Zanesville, OH 43701

COOPERATIVE COMPOSITION: THE TEAM RESEARCH PAPER

Barbara P. Thompson

As composition teachers we have often grappled with the problem of making our classes "relevant" to our technical students; in other words, our students usually perceive composition class as a separate, distinct and unrelated experience compared with their technical courses. "Once I get a job, I won't have to write." "I'll never use this stuff in a million years." "I'll get my secretary to write it." These are some of the comments I hear frequently.

It is true that our students may not have occasion to utilize all the writing skills we have taught them. However, I feel there are some skills, other than the writing experience, which could prove valuable in the working environment. One such skill is the ability to work closely with others. The job experience in the technical world is not an isolated one: engineers, nurses, architects, computer programmers, medical technicians, law enforcement officers—all work in teams at one time or another.

To fulfill what I perceive to be a genuine need, I designed what I call a "team paper" for my research classes. This paper is actually the second research paper in the course; the students have already learned research techniques, and each student has submitted an expository research paper. The "team" experience covers about four and a half weeks of the course. I begin the process by having the students indicate their areas of interest from a list of broad subject areas by ranking their first three choices. On the basis of this survey, students with similar interests are divided into groups of four. Once each group has chosen a specific topic, each student in the group must submit the following at designated intervals: preliminary bibliography sources, topical outline, notecards, a thesis statement, an introduction and a conclusion. The individual outlines, theses, introductions and conclusions, are combined, through group discussion, into the outline, thesis, introduction and conclusion for the final paper. The body of the research papers is divided among the students, with each student responsible for a section of the paper. After completion of the assignment, each group gives a brief oral presentation of its paper to the rest of the class, something that the technician is often required to do on the job. Questions and/or class discussion follow.

The research paper is evaluated as a whole, but each student's individual grade depends on whether he has handed in the assignments that lead to the completion of the paper. Thus, the student who does not complete the required steps will not receive a high grade even if his team does; conversely, the conscientious student who turns in his assignments will not be penalized by a low team grade. The team paper units, based on 100, points as the top score, are the following:

5 bibliography cards	5 points
topical outline	15
5 notecards	15
thesis statement	5
introduction	10
conclusion	10
individual section of paper	25
team grade for paper	10
individual oral presentation	5

From a personal viewpoint, two factors emerge which convince me that the team experience is a valuable one for the technical student.

The first point is that the students motivate each other far better than I possibly could. It is one thing for me to speak to a student about not turning in an assignment; it is quite another for a student to experience three of his peers glaring at him for the same reason. Furthermore, some students went so far as to arrange group meetings outside of class, something which I do not require. The second point is that the topics show a greater degree of sophistication in many instances. A sampling of topics includes the use of the computer in a trauma center, the problems related to the insanity plea, the merits of homemade pesticides, a possible advertising campaign for veterinarians, and a plan for financial security for the elderly. Clearly, four heads are better than one.

To assess the project, I distributed a questionnaire to the students asking them what they liked and disliked about the team experience and also what they thought about the evaluation of it. Overall, their reaction was a positive one. The aspect the students most enjoyed was working in cooperation with other students. Some students went as far to say that they valued the team experience because they expected to do team work on their jobs. Most students felt the project was evaluated fairly. Overwhelmingly, the aspect which disturbed them the most was students who did not turn in work, who were absent and who did not contribute much to the team experience.

Overall, I feel the students are learning a valuable skill, something they *can* take with them from composition class to the working world. The team experience is one step toward making composition relevant to the technical student.

Barbara P. Thompson
Communication Skills
Columbus Technical Institute
Columbus, OH 43215

PLUS ONE

A Nation at Risk: The Report of the National Commission On Excellence in Education

Milton Goldberg and James Harvey

Two staff members of the National Commission on Excellence in Education discuss the report that has created more furor in U.S. education than any event since Sputnik I. America is at risk, they say, but there is cause for optimism, too. This article from the September 1983 issue is reprinted with the permission of PHI DELTA KAPPAN.

TWO HUNDRED leaders of U.S. education, industry, and government gathered in the White House on April 26 to watch the ceremonial presentation to President Reagan of the report of the National Commission on Excellence in Education. Nearly five months later, the tumultuous reception of the report by the press and the public has yet to subside.

Such magazines as *Time, Newsweek,* and *U.S. News & World Report* have provided detailed coverage of the report, which has also been the focus of extensive discussions on several network television programs, among them "The McNeil-Lehrer Report," "Good Morning America," and "Nightline." Prompted by this publicity, the public demand for the Commission's report has been astonishing. The Government Printing Office, besieged by requests for the report, is now into the fourth printing; at least 200,000 copies of the text have been printed separately by various education publications, and an estimated three million readers have had access to shortened versions of the report in such newspapers as the *Portland Oregonian,* the *Washington Post,* and the *New York Times.*

The public's response suggests that Secretary of Education Terrel Bell, who created the Commmission in 1981, is correct in hailing the report as a possible "turning point" in an era when U.S. schools face "the challenge of the postindustrial age." Bell also vowed not to allow the report "to be remembered as the warning our Nation failed to heed."

If the public response to the report has been remarkable, so are the activities already under way in response to it. The Pennsylvania State Board of Education recently announced its intention to adopt new high school graduation requirements that will triple the amount of science and mathematics required for graduation and that will add computer science as a diploma requirement. Within weeks of the release of the report, the school board in Ypsilanti, Michigan, announced its intention to lengthen the school day for elementary students and to increase high school graduation requirements. The Tulsa, Oklahoma, superintendent published an extensive "Open Letter to the People of Tulsa," outlining the standing of schools in that city with respect to the Naitonal Commission's recommendations.

Not since the heady days following the launching of Sputnik I has U.S. education been accorded so much attention. Although the Commission released its report almost five months ago, major U.S. newspapers and network television programs continue to focus on the problems of education. President Reagan has already discussed the report at several regional forums, with other such forums scheduled for early fall. Individual members of the Commission and of the Commission staff continue to be deluged with requests to address meetings and convocations across the nation. Meanwhile, other prestigious individuals and panels have added their voices to the rising chorus of concern about the quality of U.S. schools; these include the Twentieth Century Fund, the College Board, and the Task Force on Education and Economic Growth (chaired by Gov. James Hunt of North Carolina).

The unprecedented attention now being paid to education is evidence of public concern. But this attention also provides—as the president of the American Federation of Teachers, Albert Shanker, pointed out to his constituents in early July—"unprecedented opportunities" for education in the coming months.

The Imperative for Reform

What has generated all this fuss? The answer is a deceptively short report to the nation, in which a panel of distinguished Americans warns that the

"educational foundations of our society are presently being eroded by a rising tide of mediocrity that threatens our very future as a Nation and a people." Titled *A Nation at Risk: The Imperative for Educational Reform,* this report has sparked a national debate on education that could prove to be seminal to the development of an ethic of excellence in education and in American life.

Commission Aims and Process

That debate was quite consciously sought by members of the Commission, under the leadership of David Gardner, then president of the University of Utah, who has recently assumed the presidency of the University of California. It was Gardner's idea that the report be in the form of an open letter that would, in the words of Commission member Gerald Holton, serve as a "clarion call" to the American public. The call was intended to remind Americans of the importance of education as the foundation of U.S. leadership in change and technical invention and as the source of U.S. prosperity, security, and civility.

The National Commission conducted its work and collected its information in an extrordinarily open manner, which also helped to encourage public response to *A Nation at Risk.* Practically everywhere one turned in the last two years, there was evidence of the Commission at work. Six public hearings and three sysmposia were held across the U.S., so that administrators, teachers, parents, and others could discuss their perceptions of the problems and accomplishments of American education. Forty papers were commissioned from a variety of experts and presented to the full Commission.

In virtually every city in which the Commission held a meeting or a hearing, the Commission members also visited local schools and corporate training facilities. It has been estimated that, during the 18 months between the first Commission meeting and the release of *A Nation at Risk,* Commission members were involved in a public event somewhere in the U.S. every three weeks. All of this highly visible activity created a national audience for the Commission's work; indeed, we knew several months before the report was issued that the response to it was likely to be unprecedented in education.

The Commission also examined the methods that other distinguished national panels had used to generate public and governmental reactions to their findings. The commissioners learned that the effective reports concentrated on essential messages, described them in clear and unmistakable prose, and drew the public's attention to the national consequences of continuing on with business as usual.

Essential Messages

The first essential message from the National Commission on Excellence in Education is found in the title of the report: the nation is at risk. It is at risk because competitors throughout the world are overtaking our once unchallenged lead in commerce, industry, science, and technological innovation. As the Commission observed, the problem has many causes and dimensions; education is only one of them. But education is the primary factor undergirding our "prosperity, security, and civility."

The Commission is not the first national body to draw attention to the central importance of education to our national well-being. Indeed, in 1980 the President's Commission for a National Agenda for the Eighties reported that "the continued failure of the schools to perform their traditional role adequately . . . may have disastrous consequences for this Nation."

Just as assuredly, the Commission is not the last national body to draw

attention to the central importance of education. One week after the release of *A Nation at Risk*, the Twentieth Century Fund Task Force call U.S. schools "the Nation's most important institution for the shaping of future citizens" and warned that "threatened disaster can be averted only if there is a national commitment to excellence in our public schools."

But the Commission may be the first national body to insist - as the essential first premise, not simply as an afterthought - that inattention to the schools puts the very well-being of the Nation at risk.

The second essential message from the Commission is that mediocrity, not excellence, is the norm in American education. *A Nation at Risk* paid tribute to "heroic" examples of educational excellence, but it made clear the fact that, on balance, "a rising tide of mediocrity" threatens to overwhelm the educational foundations of American society. And the consequences of that tide are staggering.

- On 19 international assessment of student achievement, U.S. students never ranked first or second; in fact, when compared only with the students from other industrialized nations, U.S. students ranked in last place seven times.
- Some 23 million American adults are functionally illiterate.
- About 13% of U.S. teenagers (and up to 40% of minority adolescents) are functionally illiterate.
- From 1963 to 1980 a virtually unbroken decline took place in average scores on the Scholastic Aptitude Test (SAT).
- Similarly, a dramatic decline took place in the number of students who demonstrate superior achievement on the SAT.
- Between 1975 and 1980 the number of remedial mathematics courses offered in four-year public colleges increased by 72%.
- Only about one-fourth of the recent recruits to the Armed Services were able to read at the ninth-grade level, the minimum necessary to follow safety instructions.

The third essential message from the Commission is that we don't have to put up with this situation. We *can* do better, we *should* do better, and we *must* do better.

That message is found most clearly in a section of the report titled "America Can Do It." This section cites the remarkable successes of the American educational system in responding to past challenges as justification for the Commission's optimism that we can meet the current challenges. The past successes of U.S. education have included:

- the research and training provided by land-grant colleges and universities in the 19th century, which helped us develop our natural resources and the rich agricultural bounty of the American farms;
- the educated workforce that U.S. schools provided from the late 1800s throught the mid-20th century, which sealed the success of the Industrial Revolution and provided the margin of victory in two world wars; and
- the schools' role to this very day in transforming vast waves of immigrants into productive citizens.

The message that "America Can Do It" also appears in the letter from Gardner that accompanied the formal submission of the Commission report to Bell. Said Gardner: "The Commission deeply believes that the problems we have discerned in American education can be both understood and corrected if the people of our country, together with those who have public responsiblity in the matter, care enough and are courageous enough to do what is required."

The message can be found as well in the first paragraph of the report, which notes that Americans can take "justifiable pride in what our schools and colleges

have historically accomplished and contributed to the United States and the well-being of its people." But the Commission's optimism is perhaps most apparent in the recommendations it sets for the in *A Nation at Risk*. These recommendations provide more than a prescription for improving American schooling; they also privide a framework within which parents and educators across the U.S. can consider their own unique situations and then determine for themselves how best to proceed. The elements of this framework - the amount of time devoted to learning, the content to which students are exposed, the expectations we hold for ourselves and our children, the teaching, and the leadership - constitute, in the final analysis, the tools that local districts can use to improve the processes of education.

Recommendations

The Commission made five broad recommendations, each with several implementing recommendations.

Content

The recommendations regarding content were grounded in the Commission's conclusion that secondary school curricula have been homogenized, diluted, and diffused to such an extent that they no longer have a central purpose. According to *A Nation at Risk*, today's U.S. high schools offer "a cafeteria-style curricullum in which the appetizers and the desserts can easily be mistaken for the main courses."

The Commission recommended that all students seeking a high school diploma be required to lay a foundation in "five new basics" by taking four years of English, three years of mathematics, three years of science, three years of social studies, and one-half year of computer science. Several implementing recommendations suggested the kinds of skills that high school graduates should possess in each of these areas. The implementing recommendations also stressed the desirability of proficiency in a foreign language and stated that the teaching of foreign languages should begin in the elementary grades. In addition, the Commission recommended that the schools offer rigorous coursework in the fine and performing arts and in vocational education; that the elementary curriculum be improved and upgraded; and that such groups as the American Chemical Society and the Modern Language Association continue their efforts to revise, update, improve, and make available new and more diverse curricular materials.

Standards and Expectations

The Commission concluded that we expect far too little of our students and that we get, by and large, exactly what we expect. Evidence of our low expectations is widespread. For example:

- the schools are requiring less and less homework of students;
- two-thirds of the states require only one year of mathematics and one year of science for a high school diploma;
- one-fifth of the four-year public colleges and universities offer open administrations to all graduates of high schools in the state, regardless of the courses they have taken or the grades they have earned; and
- many U.S. colleges and universities reported lowering their admissions requirements during the 1970s.

The Commission recommended that high schools, colleges, and universities adopt more rigorous and measurable standards and higher expectations, both for academic performance and for student conduct, and that four-year colleges and universities raise their requirements for admission. The implementing recommendations focused on improving the reliability of high school grades as indicators of academic achievement, on raising college and university admissions requirements (including the scores required on standardized achievement tests in the five basics), on establishing a nationwide - but not federal - program of achievement testing for students who are passing from one level of schooling to another, on upgrading textbooks, and on the need for new instructional materials that reflect the most current applications of technology.

Time

The members of the National Commission were struck by the fact that many other industrialized nations have much longer school days and far longer school years than does the the United States. Because the level of mastery of curriculum content is directly related to the amount of time that students devote to learning, the Commission made a number of recommendations designed to use available time more effectively and to prompt consideration of extending the amount of time available for learning.

The Commission recommended that significantly more time be devoted to learning the "five new basics." This will require more effective use of the existing school day, a longer school day, or a lengthened school year. The implementing recommendations included more homework, the provision of instruction in study and work skills, consideration of a seven hour school day and of a 200- to 220-day school year, the reduction of disruption, the improvement of classroom management, and stronger policies on school attendance.

Teaching

The Commission concluded that too few academically able students are attracted to teaching; that teacher preparation programs need substantial improvement; that the professional working life of teachers is, on the whole, unacceptable; and that a serious shortage of teachers exists in key fields. The recommendation on teaching has seven parts, quoted here in full:

1. Persons preparing to teach should be required to meet high school educational standards, to demonstrate an aptitude for teaching, and to demonstrate competence in an academic discipline. Colleges and universities offering teacher preparation programs should be judged by how well their graduates meet these criteria.

2. Salaries for the teaching profession should be increased and should be professionally competitive, market-sensitive, and performance-based. Salary, promotion, tenure, and retention decisions should be tied to an effective evaluation system that includes peer review so that superior teachers can be rewarded, average ones encouraged, and poor ones either improved or terminated.

3. School boards should adopt an 11-month contract for teachers. This would ensure time for curriculum and professional development, programs for students with special needs, and a more adequate level of teacher compensation.

4. School boards, administrators, and teachers should cooperate to develop career ladders for teachers that distinguish among the beginning instructor, the experienced teacher, and the master teacher.

5. Substantial nonschool personnel resources should be employed to help solve the immediate problem of the shortage of mathematics and science teachers. Qualified individuals, including recent graduates with mathematics and science degrees, graduate students, and industrial and retired scientists, could, with appropriate preparation, immediately begin teaching in these fields. A number of our leading science centers have the capacity to begin educating and retraining teachers immediately. Other areas of critical teacher need, such as English, must also be addressed.

6. Incentives, such as grants and loans, should be made available to attract outstanding students to the teaching profession, particularly in those areas of critical shortage.

7. Master teachers should be involved in designing teacher preparation programs and in supervising teachers during their probationary years.

Leadership and Fiscal Support

Finally, the Commission recommended that citizens across the U.S. hold educators and elected officials responsible for providing the leadership necessary to achieve these reforms—and that citizens provide the fiscal support and stability required to bring about the reforms. The implementing recommendations in this area concentrated on the leadership roles of principals and superintendents; on the roles of local, state, and federal governments; and on the need for educators, parents, and public officials to assist in implementing the reforms proposed by the Commission. This section of *A Nation at Risk* concluded with these words: "Excellence costs. But in the long run mediocrity costs far more."

Other Issues

Although the overall response to the Commission's report is gratifying, several of us associated with the report have been disappointed at the scant attention paid to several major themes.

Learning Society

For example, the press has frequently misinterpreted *A Nation at Risk* as an attack on education and educators. Far from it. The report stands instead as an eloquent reaffirmation of education as a key element undergirding our society. Indeed, in light of new developments in computers, miniaturization, robotics, lasers, and other technologies, the report calls for the development of a learning society. The Commission states that:

> At the heart of such a society is the commitment to a set of values and to a system of education that affords all members the opportunity to stretch their minds to full capacity, from early childhood through adulthood, learning more as the world itself changes. . . In our view, formal schooling in youth is the essential foundation for learning throughout one's life. But without lifelong learning, one's skills will become rapidly dated.

Excellence

In similar fashion, little comment has been forthcoming about the Commission's careful definition of "excellence" in education, particularly the Commission's view of excellent individual performance. For the individual, the Commission defined excellence as performing on the boundary of individual ability in ways that test and stretch personal limits, both in school and in the workplace.

Implicit in this definition is the notion that each of us can attain individual excellence - although the boundaries that each of us tests and extends will clearly

differ. This concept of excellence prompted the Commission to state that "our goal must be to develop the talents of all to their fullest." It also led the Commission to insist that the pursuit of excellence and the pursuit of equity are not incompatible educational goals and that we cannot permit one to yield to the other "either in principle or in practice."

Public Commitment

There has also been little attention given to the Commission's stand that, of all the tools at hand for improving education, "the public's support...is the most powerful." On the contrary, when informed of the report's findings and its recommendations, many educators and legislators have asked how these suggested reforms can possibly be funded. In the eyes of many of the commissioners, this response puts the cart before the horse. As one of them said, "If education demonstrates that it is willing to put its house in order, then the public will respond with increased support." As justification for this belief, the Commission cites results of national polls that indicate the public's steadfast regard for education as a major foundation of the nation's strength, the public's conviction that education is important to individual success, and the public's support for rigorous curricular offerings.

But it was toward another facet of the public's support for educaton that the Commission turned in seeking constructive reform:

> The best term to characterize [this facet] may simply be the honorable word "patriotism" Citizens know intuitively what some of the best economists have shown in their research: that education is one of the chief engines of a society's material well-being. They know, too, that education is the common bond of a pluralistic society and helps tie us to other cultures around the globe. Citizens also know in their bones that the safety of the United States depends principally on the wit, skill, and spirit of a self-confident people, today and tomorrow...
>
> An perhaps more important, citizens know and believe that the meaning of America to the rest of the world must be something better than it seems to many today. Americans like to think of this Nation as the preeminent country for generating the great ideas and material benefits for all mankind. The citizen is dismayed at a steady 15-year decline in industrial productivity, as one great American industry after another falls to world competition. The citizen wants the country to act on the belief, expressed in our hearings and by a large majority in the Gallup Poll, that education should be at the top of the Nation's agenda.

Parents and Students

Finally, although our correspondence provides ample evidence that educators understand the importance of the Commission's message to parents and students, the message has recieved too little attention. Because the roles of parents and students in the improvement of educational quality are even more important than the responsiblities of teachers, administrators, or legislators, the Commission took the unusual step of addressing these groups directly in its report.

A Nation at Risk bluntly reminds parents of their responsibility to launch their children into the world with the soundest possible education, coupled with respect for first-rate work. It also reminds them of their right to demand the best that our schools and colleges can provide and of their obligation to serve as living examples of the kind of excellence the U.S. requires.

Students receive equally forthright advice: "You forfeit your chance for life at its fullest when you withhold your best effort in learning. When you give only the minimum to learning, you receive only the minimum in return...[I]n the end it is *your* work that determines how much and how well you learn."

From Risk to Confidence

Americans have not only lived with change in the past but also welcomed and encouraged it. Faced with the dangers of an uncharted continent, they spanned and mastered it; awed by the vastness of space, they investigated and explored it; perplexed by the mystery of the atom, they plumbed and solved it. Now a new challenge beckons: how to use our enormous educational system to turn to advantage the current risk to our values, our standard of living, and our international security.

The evidence that we can do so successfully is all around us. It can be found in the past successes of American education, from the development of the one-room schoolhouse to the development of our great research universities. It can be found in the attention paid to the Commission's report by the President and the secretary of education, as well as in the high visibility of education as a major issue on the national agenda. It can be found in the spirited debate we are witnessing on the issue of merit pay for teachers, for this issue touches on many of the elements we must address in seeking excellence—merit, reward for performance, evaluation, and the role and status of teaching.

The evidence can be found in the letters that the National Commission has received from students. Predictably, some students have complained about increased homework or a longer school day. One letter writer suggested that President Reagan contact his junior high school and cancel the book reports that teachers had assigned for the summer vacation. Other letters have been less amusing.

One seventh-grader wrote a six-page letter of despair. Teaching study skills during study hall would be fine, she wrote, "if there was anything to study, and if anybody did any studying. There isn't and they don't." She said she would opt instead for six demanding hours of history, math, composition, foreign languages, geography, literature, and science. "Then my schools days would be worth getting up for. To lengthen our existing days would be merely to extend the monotony, boredom, frustration, and agony...."

The evidence that we are up to the challenge is perhaps most apparent in the many schools, districts, and states that have already responded to the Commission's report or have appointed task forces and commissions of their own to chart their next steps. But it is also apparent in corporate and foundation boardrooms, in legislative cloakrooms, in meetings of the Cabinet, and in meetings of learned societies, where discussions of the reports, of its implications for the nation, and of what the discussants should do about it are the order of the day.

All of this is as it should be, for it was precisely this kind of discussion, debate, and excitement about education that the Commission set out to provoke. If the level of interest remains high and leads to the kind of positive responses anticipated by the Commission, then we may eventually look back on the release of *A Nation at Risk* as a turning point in American education.

Clearly, the Commission's report has touched a chord in the American consciousness which governs the hopes, aspirations, and apprehensions of Americans about the future well-being of their children, their schools, and their society. The task for all of us now is the take this renewed commitment and dedicate it to the creation of a learning society. That responsibility does not belong solely to any one group. As *A Nation at Risk* concludes:

It is...the America of all of us that is at risk; it is to each of us that this imperative is addressed. It is by our willingness to take up the challenge, and our resolve to see it through, that America's place in the world will be either secured or forfeited. Americans have succeeded before, and so we shall again.

Milton Goldberg and James Harvey
National Commission on Excellence in Education
Washington, D.C. 20000

FORUM

ISSUE: SHOULD GENERAL STUDIES BE A SEPARATE DIVISION IN A TECHNICAL COLLEGE?

The technical colleges of Ohio have seen general studies as a service unit within technical education. Many of the colleges have scattered the general disciplines among technical divisions. This subordinated general studies. The writers -Carolyn Craft of Jefferson Tech and Larry Edwards of CTI - argue for a co-partnership of general studies and the technologies.

DEPARTMENTAL STRUCTURE: NECESSARY OR NOT?

Carolyn R. Craft

Do the general studies faculty members of a two-year college, community or technical, need to be organized as and to function as a department? Some two-year institutions in Ohio do not departmentalize their general studies faculty; yet it seems to me that many advantages accrue for the school—and especially for the students—when general studies is organized as a department as are Business, Health, Engineering, and whatever other academic areas exist on campus.

Here are some of the benefits that can result from having a general studies department:

-Curriculum development can be energetic and ongoing. A closely-knit, coordinated general studies department can revise existing courses and devise new courses to meet felt needs more easily and efficiently than can a general studies faculty who are dispersed throughout technical departments or are otherwise less-clearly structured than as a department.

-College policies and needs are readily communicated to general studies faculty at department meetings.

-Committee work, registration plans, and other services for the college are better provided by general studies faculty through department-coordinated planning.

-Advising duties are shared by general studies faculty. This service becomes especially important for undeclared students. General studies advisors are often the best persons to assist such students because general studies people can explain and describe all programs without having a vested interest in promoting a particular technology or program.

-Physical proximity of general studies classrooms and faculty offices often results when general studies functions as a department. This proximity can, in turn, result in better service to students because they identify and use a general studies "center" for their questions and concerns. Also, of course, general studies faculty members see one another more often, trade teaching ideas, and can function more as a team than can general studies faculty on campuses that lack a department and lack a resulting general studies area.

-Academic and administrative meetings, committees, and projects can expect and receive equal support and participation form all faculty—the technical people and the general studies people—when general studies is a department.

-Accreditation may be helped by the existence of a general studies department. North Central Accrediting Association appears to favor a deparment set-up for general studies. One gentleman who has served as an on-site consultant-evaluator for North Central at 18 different colleges affirms that accrediting teams recognize that a general studies department benefits the organization, communication, and participation of general studies faculty within the total college mission.

-Students' attitudes about their general studies education are clarified and improved where a department exists. The equality of the general studies department with their technical departments reinforces for the students the idea that they need both general and technical education to succeed. Technical faculty, too, find reinforced their attitudes about the benefits of general studies for their students.

-Teaching materials are more likely to be purchased, and equipment repairs and additions and facility improvements are more likely to occur for general studies subjects when a department exists.

-The State requires Associate degree-granting institutions to include at least 21 quarter hours of general education in two-year technical programs. Those two-year colleges with general studies departments are best equipped to demonstrate clearly to the State that they are fulfilling this requirement with not just credit hours but with a full commitment to the philosophy that general students is an essential part of a student's education and that it must not be compromised.

The case for general studies departments is clear. Benefits abound when a general studies department is in place. The general studies faculty members share ideas and grow, the general studies curriculum can be constantly enhanced, the administrative needs of the college can be served, the accreditation of the college can be assisted, and, most of all, the student can build for himself a total, balanced, effective education that will truly allow him to function successfully once he is a graduate of and a representative of his college. Finally, how can a college imagine itself, or convince any of its public, that it is truly serious about the General Education component of all the degrees it awards if it doesn't employ the normal academic structure for providing those General Education needs, i.e. the academic department?

Carolyn R. Craft
Communications
Jefferson Technical College
Steubenville, OH 43952

SEARCHING FOR EXCELLENCE: GENERAL EDUCATION DIVISIONS IN THE TWO-YEAR SCHOOL

Larry C. Edwards

"The business of education is not to make the young perfect, but so to open and dispose their minds as may best make them capable of any, when they shall apply themselves to it."—John Locke

John Locke, one of the principal figures of the Age of Reason, well understood the purpose of education—to open minds. Open minds, he knew, are capable of furthering an open society, one in which individuals and institutions are free to prosper and to grow. He probably understood that to be well educated, one must know at least a little about everything. Having a general education was important in Locke's time; the same in true today.

We can ill afford to send our students out into the workplace well trained but poorly educated. For if we do, we shall simply reinforce the stereotype of the two-year college graduate as being someone able to do one thing well and many things not at all. Employers, the public, and our free society need more. Meeting this need begins with a commitment to general education divisions in the two-year school.

Some would argue that it is possible to not only train but also to educate our students without having a general education division in each two-year college. Such an argument, however, ignores the realities of the educational process. Just as it would be pointless to require the technologies to serve under the broad heading of "general education," so also is it pointless to "farm out" the humanities (behavioral science, communication skills, and so on) to various technical divisions. Neither general studies courses nor the technologies are subservient to each other. They must interact, like the fingers of a person's hand.

How, then, can we justify the allocation of funds to create a separate educational division in each school? We can justify the creation of separate divisions by recognizing the fact that it will cost us in the short run and in the long run. The Carnegie Foundation study of American high schools (which has just been released) indicates the need for a "core curriculum." Such a need, I maintain, is not limited to high schools; it carries over into post-secondary education as well.

Peters and Waterman in their book, *In Search of Excellence*, argue that those companies which are the most successful are also the most innovative. Successful companies constantly generate new ideas, providing the sort of climate where new ideas can germinate, grow, and flourish. But new ideas are more than the products of quick minds. Creativity involves connecting bits of information, seemingly unrelated, from a diverse range of academic disciplines, life experiences, and observations. Here, I think, the "generalist" comes to the fore.

Perhaps, then, general studies divisions might have a dual role—to insure that their students are provided the basics of a general education and to generate ideas for the educational institutions served by the divisions. Ideally, the results of their innovation would be increased enrollments, decreased costs, and greater public awareness of the schools they serve. In other words, the general education divisions would, in the long run, pay for themselves, although their actual "bottom line" might be difficult to determine.

What, then, is the status of general education divisions in Ohio's two-year schools? Our community colleges do have separate general education divisions. The problem is greatest in our technical colleges: approximately half have separate divisions for general education (according to the Board of Regents). Obviously, there is room for growth. To that end, I would suggest that those interested in general education, whether or not their institutions have separate divisions, should interact on an ongoing basis. Such interaction should not concern the acquisition of "power." Rather, it should concern how they can better serve their students, their departments, and their institutions in innovative ways.

Larry C. Edwards
Communication Skills
Columbus Technical Institute
Columbus, OH 43215

PRACTICUM

DACUM STUDY: TECHNICAL WRITING

Timothy Nolan and Marc Green

INTRODUCTION

Over the past several years, colleges and universities hoping to establish degree programs in technical writing faced a number of problems that they had to resolve individually if their efforts were to be successful. One of the more serious was the absence of published research information analyzing the technical writer's profession or defining entry level skills. Another problem was that a number of states, Ohio included, had no guidelines to determine at what level technical writing programs should fit into higher education or to evaluate the quality of proposals state institutions were submitting for approval to begin their own degree programs.

The method we used to solve these problems at Cincinnati Technical College was to have a group of technical writers analyze their jobs. In order for the analysis to be successful, these professionals would have to represent a wide range of companies and organizations because students entering such a program would major in a number of areas and work for employers who specialize in a variety of fields. While providing a valuable service to the educational community, these individuals would also be contributing to the growth of their profession as well as their own professional growth. For the analysis of the technical writing profession, we chose the DACUM Process.

DEFINITION OF DACUM

DACUM is an acronym that means *Developing a Curriculum*. Basically DACUM consists of an analysis of an occupation developed through a modified brainstorming process by a panel of expert workers from that occupation under the direction of a qualified coordinator. The DACUM process produces a single-sheet skills-profile of an occupation which is called a DACUM chart. This occupational profile serves as a tool for curriculum development and program evaluation. The chart presents systematically an entire occupation in terms of skills that workers must display to achieve competence.

The DACUM process is a type of "task analysis" approach in a systematic model of curriculum development. Although many models have been adapted from this process, especially in Canada, it is distinguished from other methods of program development and evaluation by two definite characteristics. First, a panel of experts form the occupation analyzes their jobs in a systematic approach; and second, the result of their analysis is produced in a graphic chart to be used for various educational and training purposes.

DACUM WORKSHOP ASSUMPTIONS

Three assumptions provide the foundation for an educational philosophy that stresses the importance of occupational task analysis by the actual practitioners.

1. Any job can be described in terms of the actual tasks that a worker performs.
2. These described tasks have implied knowledge and attitudes that workers must possess to perform the tasks accurately and successfully.
3. In any occupation, expert workers are the most capable persons to describe their own jobs in terms of skills and tasks.

PANEL SELECTION

The success of a DACUM workshop centers upon a panel that represents the service area/community; therefore, the logical starting point for identifying such persons was the Cincinnati-Dayton Chapter of the Society for Technical Communication. From a membership roster, the chapter president identified a number of technical writers from Southwestern Ohio who were committed to excellence in their profession and would be qualified for such an undertaking. From that list, nine volunteered to serve on the DACUM panel to describe their jobs. The criteria for panel membership are listed in the table.

Table 1 Criteria for Panel Membership

*Company Size**	*Type of Industry*	*Special Factors*
Small	Computer	Private Small Business
Medium	Electronics	Large Corporation
Large	Manufacuring	Local Business
	Publications	Federal Contracts
		Graphics Specialist
		Technical Specialist
		Award Winner

*Small fewer than 100 people
Medium 100 to 500 employees
Large more than 500 employees

The panel itself included the following people:

Mark D. Albert, Associate Editor, *Modern Machine Shop* magazine, Cincinnati, Ohio

Norma E. Allen, Editor, Reports and Proposals, General Electric Company, Cincinnati, Ohio

Amy Brewer, Technical Writer/Editor, Belcan Corporation, Cincinnati, Ohio

L.P. "Luigi" Espenlaub, Technical Writer, Reynolds and Reynolds, Cincinnati, Ohio

Anne C. Hamilton, Writer/Editor, Word Service, Cincinnati, Ohio

Ralph E. Hoehan, Data Manager, Technical Service, Cincinnati Electronics Corporation, Cincinnati, Ohio

Thomas R. Milligan, Manager, Technical Writing Department, O'Neil and Associates, Inc., Dayton, Ohio

Terri Parker, Technical Writer, Cincom Systems, Inc., Cincinnati, Ohio

Jim Quinlivan, Technical Writer, NuTone Division of Scovill, Cincinnnati, Ohio

THE WORKSHOP PLANNING PHASE

During the discussion of arrangements with prospective panel members, three participants stated their belief that the technical writing occupation is impossible to analyze because of the nature of the occupation. First, different companies produce unique products that significantly influence the kind of technical writing required. In addition, size of the company also determines a vast range of job responsibilities for a technical writer. Ironically, the smaller the company, the more tasks and responsibilities are required of the technical writer. Finally, the background and training of technical writers are so extremely varied that consensus on tasks would be impossible because of a basic philosophical dichotomy. Namely, is a technical writer a writer turned technician or a technician turned writer? The infamous chicken/egg controversy typifies the dilemma when writing for a technical world.

DACUM WORKSHOP

The Technical Writer/Editor Workshop ran for thirteen hours over two days on May 19 and 20, 1983. During the two days, the panel identified 13 general areas of competency with 130 individual tasks. Initially 20 general areas of competency and over 200 tasks were developed through the intense brainstorming sessions. Revision, which the process naturally evokes, condensed the job description. The general areas of competence are listed in the following table.

Table 2 General Areas of Competence

Entry Level Skills	a. Demonstrate Technical Expertise or Aptitude b. Demonstrate Proficiency in Composition

A. Plan the Project
B. Coordinate the Project
C. Research the Project
D. Organize the Information
E. Write the Project Copy
F. Plan the Illustrations
G. Conduct Project Review
H. Produce the Document
I. Perform Administrative Function
J. Continue Professional Growth
K. Train and Supervise Employees

OCCUPATION DEFINED

The panel decided upon the term "Technical Writer/Editor" to capture the scope of the occupation. The experts looked at numerous labels (such as technical communicator) but reached consensus on writer/editor. This phase occupied over an hour of discussion while panel members shared information about their occupation, companies, and specific departmental situations. Some viewed themselves as translators for an audience, others as editors of technical drafts, and another as a provider of support service to an engineering department. The panel agreed that they all produced documents and materials which were instructional or informational in nature. Their overriding consensus focused on the commitment of the occupation to serve a specific audience. They concluded that "the technical writer/editor produces documents and materials to instruct or inform specific audiences."

ENTRY LEVEL SKILLS

The panel members ran into a conflict among themselves when they began listing the skills required to produce the project copy. Several members believed that this area should identify only those skills associated with the process of physically producing the project copy (i.e. selecting and using various tools and equipment to the submssion of the draft). Others, however, felt that this section should include the communicaton skills necessary to actually write the copy.

The panel debated this issue for about 45 minutes before it concluded that communication skills were a prerequisite for the other skills in this area and that anyone seeking employment as a technical writer would have to demonstrate proficiency in composition before he or she could be hired. The panel then decided that if the completed DACUM chart was to give an accurate picture of the skills a competent technical writer needs, it should include entry level skills. At this point, one panel member identified about 25 separate points that he thought related to composition. The other panel members, however, recognized that such a number would be unwieldly on the finished chart and condensed the number to 7 by placing a number of the skills in the tasks "using sentences and paragraphs effectively" and "striving for unity, coherence and emphasis."

With this issue resolved, the panel then concluded that a person entering their profession would also have to show expertise in a technical area. They agreed that this area of competence was significant because technical writers must frequently communicate with engineers and technicians to gather data or familiarize themselves with a concept, product, or process they will be writing about after their research is completed.

MANAGING THE PROJECT

The technical writer/editor solves problems as a project manager. Thirteen performance standards describe the planning sequence of the technical writing project.

Plan the Project

One significant insight was clarified by the panel. The technical writer does not determine the purpose of the project as a separate task. Interestingly, the technical writer/editor defines the audience, not the purpose because purpose *is* audience. The experts are so intensely audience-committed that purpose becomes a subset in many tasks. Teachers of technical writing stress purpose as a separate entity in the writing process. But the panel of experts do not perceive their profession as making that didactic distinction. Their entire "purpose" is to satisfy the audience's needs.

Coordinate and Research the Project

This general area of competence requires a technical writer/editor to interact with numerous groups and individuals. Communication is achieved not only through the finished written product but even more by interaction with different people. The technical writer/editor interacts with many different people in different settings such as meetings and interviews. The broader definition of communication skills is truly descriptive of a technical writer/editor's role. The job description of the technical writer/editor dispels the stereotype of the solitary writer quietly composing the draft. The technical writer/editor must work with production staff, photographers, illustrators, artists, printers, engineers, technicians, management, and most importantly with the client/audience. This dynamic communication process eventually results in a product called the final draft, but what a complex system!

PRODUCT DEVELOPMENT

The technical writer/editor also undertakes the writing process. General areas of competence include "organizing the information," "writing the project copy," "planning the illustrations," and "producing the document."

Organize the Information

The only time purpose entered into the discussion of the job description wa as a method to help organize information. Outlining the draft was stressed, but the focus was again on the larger scale. Since outlines are not developed in isolation, the technical writer/editor must interact with many people before a draft is developed. Even during the writing process, feedback to and from designers helps edit and reorganize the format.

Write the Project Copy

The importance of the audience of the technical writer/editor was emphasized even during the tasks of writing the project copy. Standardized terms, acronyms, vocabulary, and illustrations were evaluated for readability in this state. External controls shaped the draft because the panel stressed the role of compliance with standards and specifications from numerous sources. The effects of the draft had to be analyzed from these different points of view which ranged from immediate supervisors to the federal goverment.

Plan the Illsutrations

The distinctive nature of technical writing is highlighted by the twelve stages that the technical writer/editor completes to plan the illustrations. The panel sequenced the twelve tasks to develop illustriations that are essential for this type of writing. The panel did not focus on the kinds of figures but how they assess the draft for appropriate illustrations. Although their tasks determine requirements, kind, color, and style of illustrations, the interaction with artists and technical sources actually evaluates and approves the final illustration. In certain companies, the technical writer/editor may even have to draw the illustrations.

Produce the Document

Nowhere are detailed, special skills more evident than in the production of the document. The panel clearly assessed the fifteen competencies that the technical writer/editor performs in this general area. Obviously, the "editor" dominates during this stage as proofreading, camera-ready copy, and photographic skills are demonstrated. The required skills range from "paginate the text" to "solve production problems." Keen powers of observation and expertise in both printing and photography are needed for production of the document.

Conduct Product Review

The evaluation of all the former areas, including the draft, is conducted in the project review. Perhaps this general area tests the competencies of the technical writer/editor more than any other. The project review demands synthesis of all composition and people skills for the technical writer/editor. Communication skills are weaved into group dynamics during this phase. These eleven competencies could be flowcharted to heighten the role of revision, corrections, and changes. The panel kept repeating the concept of the "loop" A technical writer/editor keeps the review cycle operating until final approval is achieved. These tasks are so critical that the table lists them.

Table 3 Tasks to Conduct Project Review

1. Conduct meetings	8. Verify for accuracy and adequacy
2. Listen to comments	9. Prove the quality of the material
3. Advocate your position	10. Resubmit for review
4. Resolve conflicts	11. Continue review cycle until final approval
5. Incorporate comments	LOOP
6. Evaluate the impact of changes	
7. Correct the copy	

IMPLICATIONS FOR INSTRUCTION

The college teacher of technical writing must realize the distinction between training technicians to write technically and educating students to be technical writers. Ideally the results of this DACUM process should be useful to re-think and design the technical writing courses in higher education. Instructors should strive to educate students in technical and engineering programs to communicate with technical writers/editors, not to become them. A separate curriculum must be planned for the education of technical writers/editors.

Technical Writing Couses

Direct implications for instruction of technical writing courses center on the broader definition of communication skills. Perhaps courses that teach only types of writing, such as descriptions of mechanisms or unsolicited proposals, must be expanded to include formal presentations, discussion techniques, and organizational development. Technicians and engineers need to communicate with the technical writer/editor so that the final document bridges the gap between their thinking and the audience's needs. The technical writer/editor is the facilitator of this process.

Technical Writer/Editor Curriculum

The DACUM chart, which identifies 130 competencies of the technical writer/editor occupation, should form the basis for a competency based curriculum. The program would assume and test entry level skills of applicants for both technical expertise and proficiency in composition. The curriculum might have to be offered during the last part of a degree program or after its successful completion. But the timing is not as important as methods. The technical writer/editor curriculum must address the development of competencies in project management and product development. Three appropriate instructional methodologies would be the case study, role-play/simulation, and internship.

The Case Study Method

A case is a narrative fiction that will force students to think and behave as a technical writer/editor in order to solve various communication problems presented within it. An effectively designed case will mirror the conditions students will encounter in the real would of the technical writer/editor, contain all the information necessary to produce the final written document(s), and stress the concept of problem solving as related to the broader definition of communication. Also, it will have to incorporate many of the competencies and skills recognized in the DACUM chart, such as planning and coordinating projects, researching and organizing information, and writing the project copy. Cases will also allow the student to assume the part of the central character in the narrative who will interact with others, identify audiences, and develop the communication in terms of that particular audience's needs. For those instructors who write their own cases, the DACUM chart can serve as a guide for including the specific tasks relative to the profession and for understanding the overall process a technical writer/editor must successfully complete to produce a document.

Role-Play/Simulation

Since the technical writer/editor is a project manager who interacts with many sources of information, structured experiences that assimilate real world working conditions could be constructed. Simulation of the environment would stress the essential human interactions and delicate problem centering and solving processes. People and task orientations could be synthesized to create a climate to develop competencies as a technical writer/editor. In-basket exercises could provide a practicum in a college classroom that could attempt to measure the competencies of the technical writer/editor.

Role playing could give valuable insight and feedback to the student technical writers/editors because they could act out company and client roles as well as their occupational choice. To see the occupation from another person's point of view offers an invaluable perception into the limitations of the tasks of the technical writer/editor. The students will appreciate the responsibilities of the printers, photographers, designers, and artists if they could role play accurately and authentically these occupations which support and assist the technical writer/editor in the daily performance of his or her job.

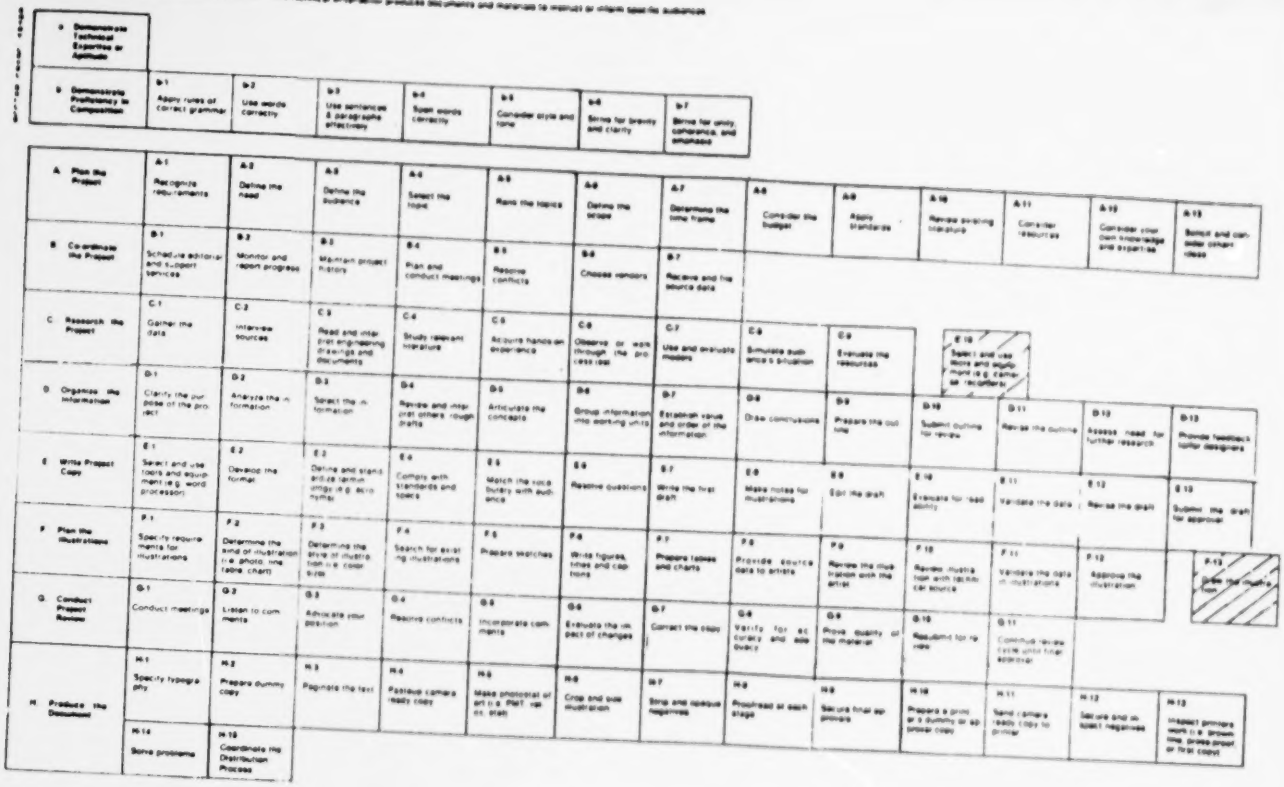
Internships

Probably the greatest method for developing competencies is the internship. As a matter of fact, the case study, role playing and simulation could prepare the student for the clinical internship. Cooperative education could provide the structure for a vital and relevant educational experience in the technical writer/editor profession. Actual "hands-on experience" with direct supervision from a practicing professional could begin the internship. Gradually, the student technical writer/editor could be indirectly supervised while being given more responsibilities for project management and product development. The panel stated that many of their departments were understaffed and overworked, especially at deadline. Perhaps the internship problem could assist them while it taught the student.

SUMMARY

The Technical Writer/Editor DACUM Workshop identified 130 different tasks that analyze the occupation in a job description format. The DACUM chart could generate a competency-based curriculum for the formal education of people who want to become technical writers/editors. The two basic concerns of the occupation center upon project management and project development. The technical writer/editor interacts with many sources and audiences to create informational/instructional documents. This dynamic occupation requires as entry levels both proficiency in composition and technical expertise, or at least aptitude. Three instructional methods in a separate curriculum to educate technical writers/editors are implied by the chart. The case study, role play/simulation, and in-

TECHNICAL WRITER/EDITOR: The technical writer/editor produces documents and materials to instruct or inform specific audiences.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E Write Project Copy
F Plan the Illustrations
G Conduct Project Review
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ternship provide ideal situations with minimum constraints to prepare students for the world of work as a technical writer/editor.

You may obtain a copy of the DACUM chart for the Technical Writer/Editor by contacting the authors directly.

Timothy D. Nolan
Marcus M. Green
Instructors, Technical Writing
Cincinnati Technical College
Cincinnati, Ohio 45223

REACTION

The JOURNAL encourages letters and articles in reaction to its contents, OATYC policies, and OATYC activities.

Because This Doesn't Look like Kansas Anymore

Roy Bentley

Two-year colleges, relatively new at their task, as present enjoy a reputation not unlike the Kansas dust storm in *The Wizard of Oz*—dry, gray and a little dangerous. At Hocking Tech this past year we have used courses in creative writing to do for our students what the Yellow Brick Road did for Dorothy. Our communications department has offered a course winter and spring quarter in the writing of poetry. (*Free verse* for those of you still reeling from those iambic pentameters.) This type of course is a great deal like the first section of our Communications II course, which begins with at least two weeks of writing narrative essays. (This narrative aspect tends to emphasize place and the particular life history of the student.) Our intent has been to expose students to contemporary writers whose work represents some of America's finest efforts in the field—James Wright, Maxine Kumin, Galway Kinnell, Gary Snyder, Louise Gluck and others. Next, we allow the students a hands on experience with their peers helping in the critiquing. We publish the best of the two quarters' work in a small literary magazine distributed within the school, We encourage and instruct, but most importantly we domonstrate how much we, as human beings, value these near-misses. The fact that we emphasize rewriting tends to reinforce the lessons of Comm I and II, our traditional writing courses.

Finally, we *care* about writing. That can be contagious in the way Dorothy's questing for the Emerald City draws in The Tin Man, Scarecrow and the Cowardly Lion. Toto too. Certainly this will not work for everyone. Like CTI's science fiction course discussed by Larry Edwards in the last issue, creative writing is not something we need make a requirement. But for those who elect to add on this small odyssey, there is an opening of doors. Often, I hear a student realize for the first time the importance and specificity of his or her own life.

What is the pay off; what is in it for us as educators? Kansas and our technical colleges may be unadorned, but they represent the thing America has made an anthem—the opportunity to labor at a task of our own choosing. Creative writing and courses like the one at CTI, remind us there is more to learning than mere work. Life, too, falls under the heading of General Education–a part of all our charters.

Roy Bentley
Instructor
Hocking Technical College
Nelsonville, OH 45764

Response to "What Works Best in Developmental Education"

Linda Houston

After reading Mary Lou Conlin's "What Works Best in Developmental Educaton," *OATYC Journal* Spring 1983, I was struck with the similarities between a Developmental Education Program (DE) and a Writing Across the Curriculum Program (WAC). In order to make either successful, there must be people at a college willing to invest the time and effort needed to have such programs grow. When funding is tight, when faculty are already over committed, some one person must be willing to push for these programs.

Many of the principles listed for success of Cuyahoga Community College's D.E. program are certainly applicable to WAC:

— Clearly stated and enforced attendance and grading policies are a necessity in WAC if the cross-discipline nature of the program is to be effective.

— Clearly stated specific instructional objectives and evaluation criteria should be present in every class, but in WAC, certainly two or more teachers working together on assignments do need to list objectives and evaluative criteria so that students are fully aware of their own responsibility in the program.

— Multiple grading of student assignments is used well in WAC. Some programs do not require such cooperation, but when it exists, the student feels there is objectivity in the grading of papers.

— Small group and one: one instruction becomes a necessity in WAC programs as well so that students and faculty alike can communicate needs.

No developmental education program can work without the support of the remainder of the college—administrators and faculty included. In order to achieve a successful WAC program, the same support is required. Developmental Educational Education and WAC may seem far apart to many; but I see a strong similarity in the programs.

Linda Houston
Coordinator, Communication Skills
Agricultural Technical Institute
Ohio State University
Wooster, OH 44691

INFORMATION FOR PROSPECTIVE CONTRIBUTORS

The *Journal* encourages submission of material for any of its sections by faculty, staff, administrators and/or trustees of any of Ohio's community, general and technical, junior, regional and technical campuses. The *Journal* is particularly receptive to articles of general profession importance in the areas of administration, instruction, and baccalaureate or technical studies for two-year institutions.

There are forty-four solicitors of editorial material listed here. Contact your campus solicitor or one nearest you to inquire about submitting a specific manuscript.

Manuscripts must be typed double-spaced and of approximately 1,000-3,000 words in length. All submissions must be accompanied by a stamped self-addressed envelope for return. Art work must be black and white. Photos glossy; tables and drawings on 8½ by 11 paper. The name and address of the contributor should be on the back of all art copy.

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Submission deadline for the next *Journal* is February 1, 1984.

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Ohio Association of Two-Year Colleges
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VOL. IX NO. 2 SPRING 1984

OHIO ASSOCIATION OF TWO-YEAR COLLEGES

THIS ISSUE

COMMENT

The Promise of 1984

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Teach Thinking in the Technical Classroom

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PRATICUM

One Way to Help Nontraditional Students Increase in Persistence and Competence

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REACTION

Cooperative Criticism

oatyc

OATYC Provides:

- Collective influence on the future direction of Ohio's two-year campus system;
- Access to low-cost classroom liability insurance protection of $300,000;
- An open forum for the discussion of trends, problems, accomplishments, and challenges unique to state-assisted, two-year campuses;
- A newsletter which informs members of the proceedings and activities of OATYC and of Ohio's two-year campuses;
- The *Journal* which provides an opportunity for publication and exchange of scholarly views and concepts;
- Conference and workshops providing opportunities for professional development, visits to other two-year campuses, presentation of papers, and socialization with other two-year campus personnel.

Purposes:

- To provide a forum in which all state-assisted, two-year campuses can meet to discuss and resolve mutual problems;
- To foster cooperation and communication among Ohio's institutions of higher education;
- To provide the viewpoint of the state-assisted, two-year campuses to the Ohio Board of Regents and to the State Legislature;
- To identify and improve the status, prestige, and welfare of all state-assisted, two-year campuses in Ohio, and to other activities which will increase the contribution of state-assisted two-year campuses to Ohio's total educational process.

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"To pay all sums which the insured (teacher) shall become legally obligated to pay, arising out of his teaching pursuits. The policy carries a limit of $300,000. Defense costs are included over and above the $300,000 limit. The policy covers damage from Bodily Injury, Property Damage, and Corporal Punishment. The three-year premium is $30.00 for lab coverage and $20.00 for non-lab coverage." (The above is a summary. It is not a full explanation of charges. For an exact interpretation of the coverages, the actual policy must be reviewed.)

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OF THE
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The Ohio Association of Two-Year Colleges
c/o David Conrath
Washington Technical College
Rt. 2, State Route 676
Marietta, Ohio 45750

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COMMENT

THE PROMISE OF 1984

Vic Karhan

To those of you who attended our recent annual convention on November 3 and 4, 1983, thank you for helping make it such a huge success. The number of attendees exceeded our expectations and in some cases a little movement was required to find a larger location. The seminars were well attended and according to the evaluations enjoyed for their interest, stimulation and choices of topics. A big thank you to the presenters and the program committee for all your efforts.

I am looking forward to the coming year with enthusiasm. Our treasury is in the black; we are moving ahead encouraging participation by all two-year colleges to provide an active representative to attend board meetings and provide input. We are striving to provide advertising in our *Journal* to make it self-sustaining; and we are creating a method of acknowledging outstanding two-year college personnel through our campus representatives. 1984 promises to be a good year.

Vic Karhan
President
OATYC

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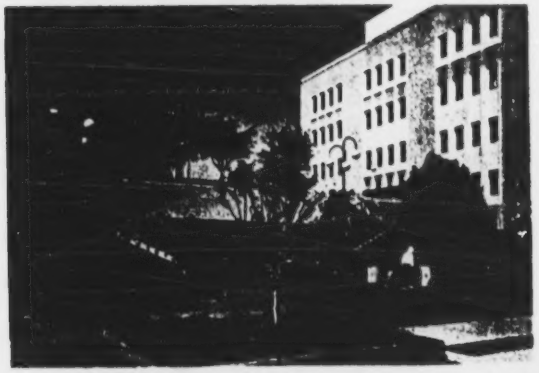
TEXT

FOCUS: HAPPY BIRTHDAY, COMMUNITY AND TECHNICAL COLLEGE, THE UNIVERSITY OF AKRON

JOE ARNOLD, ET AL.

Each issue of the Journal *highlights a two-year college campus in Ohio. In this edition, the* Journal *focuses on Community and Technical College of the University of Akron and its history of innovative achievements as it celebrates its 20th year anniversary in 1984.*



The Community and Technical College was formally established as the sixth degree-granting college of The University of Akron on February 1, 1964. This year the college is celebrating its 20th anniversary. The following article provides a brief history of the origin and first 20 years of this innovative step: a two-year technical college as an integral part of a major university.

In the annals of The University of Akron, the concept of a technical college appears as early as 1895 when a proposal was made (and subsequently turned down) to establish a school of "manual training and industrial arts." Again, in the late 1920's, University President George Zook pressed for the establishment of "short courses," one-, two- or three-year courses in applied and vocational fields. Lack of money and space precluded the establishment of this kind of program at that time. Later a report issued by President Truman's Commission on Higher Education strongly supportive of offering post high school training in job-oriented programs stimulated new interest in the development of technical degree programs. With a background of effort and concern stretching back a quarter-century, plus the immediacy of public need in the post-war era, a committee under the leadership of Dr. D.J. Guzzetta, then dean of the Evening College and currently President of the University, pushed ahead with curricular development, and by September, 1959, the first associate program was ready.

Designed to meet the need for "practitioners" whose work would lie between the skilled and professional levels in the community, the new two-year degrees offered programs in the arts, secretarial science, mechanical design and industrial electronics. A new Department of Associate Programs of the General College administered the courses under the direction of Dr. Aloysius Misko, and at the 1960 commencement the first associate degrees were awarded.

The next move forward for technical education came in 1963 when the administration of Governor James Rhodes announced that state and state-assisted universities were to provide technical education for their constituencies. Responding to both the state and community requests, the University's administration set forth to expand technical education and the Community and Technical College (C&T) was formally established as Akron's sixth degree-granting college on February 1, 1964. William Petry, long-time head of the Department of Mechanical Engineering, and subsequently acting dean of the College of Engineering, was appointed dean. He proved to be an excellent choice, for he was enthusiastic about the new college and committed to its importance and he had fine rapport with both the academic community and local business and industry people.

In the first semester of full operation, the new college enrolled several hundred degree-seeking students and boasted five full-time faculty. Since some associate degree coursework had been available previously through the General College, the new Community and Technical College was able to graduate its first class of 17 students that June, 1964.

From its inception, the C & T College lived in borrowed quarters, literally squeezed in wherever space was available. In 1965, Akron received a $6 million grant from the state of Ohio for a building to accommodate the expansion of student enrollment, faculty and laboratory and classroom needs. Completed in 1969, Schrank Hall became the new home for the C & T College, which by this time enrolled nearly 1,500 students in 17 degree programs, with 58 full-time and 35 part-time faculty members.

One of the most unique and innovative features of the new C & T College was its inclusion into the heart of the University system. This fully integrated program permitted students, faculty and administration in the technical programs to share classrooms, library, athletic facilities and extracurricular programs on a completely equal footing. The University of Akron, as a major urban university, was thus able to fulfill its obligation to the people of Akron and surrounding communities, training young people and older returning students for the jobs of today and tomorrow. Within a few years, the University had firmly established the new curricula, offering over a dozen fields of specialization ranging from commercial art, data processing and chemical and industrial technology to law enforcement and allied health technology.

Last fall, the C & T College enrolled 5,231 students in 30 degree programs with 110 full-time and 130 part-time faculty. The college is organized in five divisions, one of which is responsible for providing general education courses for associate degree programs. The following programs are currently offered: Business Technologies – Business Management, Commercial Art, Data Processing, Hospitality Management, Marketing and Sales, Office Services, Real Estate, Secretarial Science, Transportation; Engineering Technologies – Chemical, Drafting, Electronic, Manufacturing, Mechanical, Surveying and Construction; Health Technologies – Histologic, Medical Assisting, Radiologic, Respiratory Therapy, Surgical Assisting; Public Service Technologies – Criminal Justice, Community Services, Educational, Fire Science, Handicapped Services. In addition, the Associate of Arts, Individualized Study, and Labor Studies degrees are offered.

In addition to the college facilities in Schrank Hall, the Health

Technology Division is located in Gladwin Hall which was opened in 1979. The Hospitality Management program recently moved to Gallucci Hall, a former Holiday Inn immediately adjacent to the campus. This building provides a complete restaurant and rooms for a University guest house which are now operated by students in the program.

To commemorate its 20th anniversary, the College is holding a number of special events during the 1983-84 year. Last November, a dinner meeting of all the program advisory committees was held with Dr. Edward Moulton, Chancellor of the Ohio Board of Regents, as speaker. On February 11, the College formally celebrated its founding with an anniversary banquet attended by 275 people, including many community leaders. Dr. Dale Parnell, President of the American Association of Community and Junior Colleges, was the featured speaker. Upcoming events are an educational conference on April 6 with the theme, *Ohio's Two-Year Colleges After 1984* and a community open house on April 26.

In a span of 20 short years, the Community and Technical College has come of age. It is now a major part of a large urban university and provides a significant educational resource to a metropolitan area of over 600,000 people.

Joe Arnold, et al.
Professor of Education
The University of Akron
Akron, OH 44325

THE SEARCH PROCESS: FROM THE OUTSIDE LOOKING IN

JAMES McLAUGHLIN

At one time or another each of us is involved in the search process. This involvement may take the form of serving on, or chairing, a search committee, conducting or attending interview sessions, or undergoing the search process as an applicant. There are a number of positive steps that can be taken to enhance the public relations value and increase the effectiveness of the search process if we will just look at process and procedures from the applicant's point of view as well as our own.

As we enter the height of the recruiting season it is important to remember that a search process is more than just an effort to identify the best qualified candidate for an available position. It is also a public relations statement to the academic, professional and local constituencies of the college. Besides identifying qualified candidates, we must also present a convincing case that our institutions offer attractive, rewarding career opportunities with professional growth potential. Perhaps the best way to begin presenting this case is with a professional approach to the search process itself.

Initiating the search is not an altogether easy process. There are internal policies and procedures, committees, budgets, deadlines and countless other details to be addressed while insuring that legal and social obligations of affirmative action and equal opportunity are being met. In meeting all these demands it's easy to lose sight of the personal impact on potential candidates. During the initial planning phases, we must constantly be on guard to insure that our process is both fair and reasonable. One way to do this is to put ourselves in the position of a potential applicant.

The original idea for this paper came from a rather lengthy list of "don'ts" which are typically found in two-year college hiring practices. While some of the don'ts are still included, the main ideas are expressed in terms of *seven* positive activities which can enhance the professionalism and effectiveness of the search:

1. Develop clear and concise position descriptions which accurately detail duties, responsibilities and qualifications for the position. Use these descriptions to the fullest extent in advertising for the position. The more information that is available "up-front" to applicants, the better they will be able to assess their compatibility with the position. Serious candidates will always seek the opportunity to target their background and abilities to listed qualifications and requirements. When specific qualifications are addressed in application letters and resumes, the screening process becomes easier and is not as much of a guessing game.

2. In advertising, provide clear and precise instructions regarding when and how to apply. There should be no question as to what constitutes a complete application and when it should be received. A complete listing of these details, including to whom and where the application is to be sent, will preclude needless correspondence at a later date.

3. Establish an application procedure that is both relevant and reasonable. Typically, application procedures require a letter of application, a recent resume, references and, possibly, transcripts. Additional application material may include completing an official application blank, individual letters of reference, copies of appropriate licenses or certificates, affirmative action statements, placement credentials, and even short essay responses to general or specific job related questions. Many colleges start to go overboard here by requiring "official" transcripts, individual form letters (or checklists) from several references, six page (detailed) application forms and even copies of birth certificates. In some cases, a candidate's file may exceed 25 pages of material before the actual screening process even begins. This situation is neither fair to the candidates nor the committee. The information is often repetitive and is simply too much paperwork for the committee to wade through. How much additional information is gained from a long application form that asks year of graduation and major courses from elementary school? "Official" transcripts are of no more help in screening than unofficial, but requiring them adds extra steps and time required to provide a complete packet. Official transcripts and college application forms can always be required as part of the hiring process after the selection is made. Furthermore, a number of vintage application blanks currently being used by some two-year colleges are well outside recent equal employment opportunity guidelines.

4. Respond in a timely and positive manner to all applicants. It is professional courtesy to acknowledge applications as they are received. Many candidates go to considerable expense in both time and money to put together original, tailored application packages. The acknowledgement letter is an appropriate way to indicate the tentative timeline or process that is to be followed in filling the position. Some candidates will request additional information about the position, and the acknowledgement letter can be accompanied by a copy of the official position description and an information sheet about the college.

5. As the screening committee nears completion of the review process, candidates who are no longer under consideration should be notified. An individually addressed and personally signed letter acknowledging the applicant's time and effort in applying is an appropriate professional gesture. Candidates who are being considered for personal interviews should be advised. This can be done in a short letter or telephone call. This is frequently

done if the committee wants additional background information or clarification of some particular issue. This communication should let the candidates know what the timetable is for selecting and conducting interviews. Most candidates will be pleased to know of their relatively high standing, but more importantly, this may be when the college finds out that one or more highly ranked candidates are no longer interested in, or available for, the position.

6. When finalists are invited to on-campus interviews, precise planning is important to both candidates and colleges. When travel and lodging arrangements are required, the invitation should clearly address to what extent and how the college will accommodate these expenses. The search committee should have an interview plan developed and should share this with the candidate in the form of an agenda or itinerary. Interviews should be planned in advance to insure that all relevant questions are answered and that all necessary people are included in the interview process. By doing this candidates will not have to be asked to return to speak with a Dean or President. Avoid marathon inquisitions by limiting sessions to about one hour and interspersing group and individual meetings. Be honest with candidates. Weaknesses and problem areas will not be ignored when the new person is hired! Advise candidates of when and how the final selection is to be made and how they will be notified. Salary ranges and fringe benefits are valid topics for discussion, but never try to negotiate them until the job is being offered.

7. Finally, follow through with a decision and notification in a timely manner. Needless hesitation and indecision can lose good prospects to other offers. Make sure that all finalists are notified as soon as your candidate has accepted the offer. A telephone call expressing a sincere thank you for their time and efforts will be well received.

These seven suggestions are by no means a comprehensive answer on how to conduct the ideal search. However, they do offer practical and workable ways to insure the "personal" aspect of the process is not overlooked.

James McLaughlin
Chairperson
Division of Business Technologies
Central Ohio Technical College
Newark, OH 43055

TEACH THINKING IN THE TECHNICAL CLASSROOM

MARC NEWMAN

In light of the Bell Commission report released this past April ("A Nation At Risk: The Imperative for Educational Reform" by the National Commission on Excellence in Education) it appears that we as educators and society as a whole need to seriously rethink our objectives in public education and in technical education in particular.

One of the major issues, or "indicators of the risk" pointed out by the blue-ribbon National Commission on Excellence in Education involved the lack of reasoning abilities on the part of our young adults. The commission wrote:

"Many 17-year-olds do not possess the "higher order" intellectual skills we should expect of them. Nearly 40 percent cannot draw inferences from

written material; only one-fifth can write a persuasive essay; and only one-third can solve a mathematics problem requiring several steps."

The ramifications of such a situation are staggering, especially to those of us in technical education. We have convinced ourselves that our major responsibility is to teach students how to do things; in fact how to do things in an almost cookbook fashion. By breaking down a technical profession into its component skills, it is possible to build up competency in a particular field by having students absorb little bits of a technology at a time. Once the recipe is complete, the student is ready to practice as an electronics technician, a nurse, or a bookkeeper. In the process, however, we are short-changing the students dramatically by concentrating on the rote (how to) instead of the why. So often students seem stumped when asked to apply supposedly learned skills to non-traditional, non-textbook situations. In other words, they don't really understand what they're doing; my assumption being that if you truly understand you should be able to adapt and apply your knowledge to most any situation.

What this bodes for the present and future is an electronics technician or nurse or bookkeeper incapable of the diagnostic and analyistical abilities necessary to truly be competent in their work and their usefulness to society. Imagine, if you will, a nurse not really understanding the significance of certain, out-of-the-ordinary symptoms in a patient, or a bookkeeper incapable of comprehending the consequences of certain items on a balance sheet or income statement. If we don't want to place much importance on the lack of reasoning power in terms of our potential decline as a civilization, or if we want to assume that the microcomputer will take care of our human failings, let us at least consider our responsibilities to our students. We are not adequately preparing our charges for future development career-wise or in terms of their own self-fulfillment unless we begin to stress higher order reasoning in our course offerings.

The implications for the two-year technical college should be clear. I propose that henceforth all curricula contain coursework in decision-making, problem-solving and ethics. This, of course, suggests a de-emphasis on the teaching of merely technical skills. Faculty and administrators must give up the notion that interpretive reasoning and intellectualism are monopolic of the four-year college. Technical school graduates need to be able to think too.

Marc Newman
Business Instructor
Hocking Technical College
Nelsonville, OH 45764

COLLEGE WITHOUT WALLS AT SINCLAIR COMMUNITY COLLEGE

GORDON COWPERTHWAITE

A learning partnership between students and faculty is at the center of a unique external degree program.

It should come as no surprise to any observant community college administration that a large cluster of potential adult students stand restless and tentative at the edge of the campus because they are unwilling to risk a

Sinclair Community College, Dayton, Ohio

traditional setting.

There are good reasons for this lack of adventure: a history of disappointment and failure with traditional education and its structure (now stereotyped as "more of the same"); an unfounded anxiety about "competing with younger students; the prospect of dragging-out education over many years because of the necessity of locking into college schedules and college classrooms. In short, it is a story of how traditional program structure and delivery fail to meet the needs of many adults because the System simply is not interested in them except on its own terms.

Evening and Saturday classes, even Sunday classes, are not basic enough changes in delivery to overcome the inertia of many self-directing adults who want, but don't find, the promise of a traditional college education compatible with their life and learning styles.

Adult Learners Seek Individualized Education

A survey of Patrick R. Penland (1977) shows that four out of every five adult Americans are involved in "self-planned instruction." Mr. Penland, who is Professor of Education and Library Science at the University of Pittsburg, feels that a true learning society is at hand. "A great many people are concerned about setting their learning pace and exploring their own styles of learning," he says. The survey indicates that most of these adult learners are not interested in enrolling the traditional modes of education. Most prefer to study at home, although on-the-job training also ranks high as an option.

Mr. Penland pictures these adult learners as "a mass of individualists who tend to be anti-establishment." The survey shows that adults make use of a wide range of community learning resources, recognizing, it seems, that significant and "legitimate" learning occurs in ways and places beyond the campus. The Penland study confirms what many educators are now beginning to consider seriously: that adult learners want flexible time and space learning opportunities keyed to the learning styles that reflect their individual differences. What this says, simply, is that many adult students want more control over the learning process and will choose proactive, self-directing learning over passive classroom instruction.

According to K. Patricia Cross in "The Adult Learner," 1978, a characteristic that distinguishes them from children is their ". . . reservoir of experiences. New learning for adults has to be incorporated into an existing framework of learning and experience. Adults do not come to school with a blank slate waiting for it to be filled by teachers. They want to know how new knowledge relates to their own thoughts and experiences."

> The range of adult interest is very great, and it is difficult to present a statistical profile of "the" adult learner. Furthermore, there is a danger of deriving a simplistic profile from the statistics of market surveys. A simplistic profile would indicate that the largest number of adults are quite traditional in their educational preferences. Classes and lectures, for example, are the most popular teaching methods, with one-fourth to one-third of survey respondents favoring traditional classes. Don't lose sight of the fact, however, that the same statistics mean that from two-thirds to three-quarters of the adult learners *prefer some approach to learning other than the ubiquitous lecture.* (Cross and Zusman 1977). Emphasis added.

Studies by Allen Tough, "Majors Learning Efforts: Recent Research and Future Directions" (1978), indicates that when adults go about learning in a natural way (as contrasted to being taught) they become highly self-directing. In traditional education, the teacher structures the learning. Structure, when imposed, conflicts with the adult learner's deep psychological need to exhibit self-direction in the process of understanding needs, selecting resources, identifying strategies, and designing evaluation.

What you can do, Tough says, is "Become committed to fostering the entire range of major learning efforts. Feel a kinship with the helping enterprise devoted to facilitation persons' efforts to learn and grow. Feel part of an even wider enterprise to foster humane, loving, liberating, growth-enhancing creative elements in our society. In your program or institution, be sure learners have plenty of freedom and options."

Complementing Existing Programs

The Sinclair College Without Walls spotlight is focused upon this self-directing adult, becoming an alternative to, not a substitute for, traditional education. As such, it is complementary to our established academic programs. This is an important distinction we stress internally because it helps ease the tension of "turf" issues and disavows any claim that students are being transferred (read: Stolen) from one program to another with no added benefit to Sinclair in terms of FTEs. College Without Walls does attract new students to our College. Of the over one hundred FTE students in the program, most of them tell us that a study program potentially free of classroom commitment is the only way they can see to move expeditiously toward an Associate Degree. These attitudes about traditional college programs find broader and accepted support in the Cross and Tough studies mentioned previously.

C.W.W. Students Integrate Life/Work Experience

The College Without Walls is a self-directed, learner-centered program leading to an Associate Degree in 13 departments of the College: three Core Faculty and one-hundred teaching faculty (Mentors) serve just over one-hundred FTE students. C.W.W. seeks to build highly-individualized and flexible learning programs which support the student's capacity to learn independently. At the same time, however, there is a close and continuing contact between students, their Core Faculty, and the C.W.W. Mentors who approve learning contracts and conduct contract evaluations.

C.W.W. students are not required to attend classes as traditional students do, although many elect to take courses like accounting, data pro-

cessing, and algebra in the classroom. Instead, course objectives are met through the development of learning contracts which 1) define objectives, 2) establish learning activities, and 3) provide for evaluation of the learning. In our program, the learning contract is the pivot upon which the idea of individualization turns. Course objectives provided by the faculty are common to both traditional and C.W.W. students. The Learning Activities and Evaluation sections of the contracts provide diversity by allowing our students to employ those modes of study which reflect the strengths of their learning styles and which are most productive of lasting and useable knowledge.

The best contracts are those which provide for a variety of learning options and which capitalize on the student's strengths and minimize weaknesses. A learning contract might be understood best by comparing it to the classroom. A typical classroom experience for a course in management would have students listening to lectures, reading text assignments, possibly exploring additional resources such as films and cassettes and management periodicals, taking tests, and perhaps doing a class project. However, all this is done in a pre-set time frame, a quarter or a semester, and learning is by-and-large group-oriented, not self-paced.

A learning contract is an individualizing experience and can be time-flexible depending upon the scope of the learning activities. The management student may or may not read the course textbook. Instead, he or she may choose to explore parts of several recommended texts; research periodic literature with a focus on certain industry-related management problems; interview middle or top managers to find out the key issues in current management thinking about profit-sharing plans, union activities, or participate vs. free-reign management styles; develop a management plan for reorganizing a department which has been shifted from staff to line responsibility; arrange to conduct a project replicating a human relations study by some management authority such as McGregor, Herzberg, McClellan, or Taylor. Many of these projects are developed with the cooperation of the companies for which our students work and they frequently use their Community Resource Faculty to help them. Community Resource Faculty are field practitioners whom students nominate to work with them as experiential experts and sounding boards for the application of theoretical knowledge.

The 80's Will Call For Innovation

So where does this leave us? Rita Weathersby's paper, "Life Stages and Learning Interests," presented at the 1978 National Conference on Higher Education, explained the way people make choices that affect their growth and development across the life cycle. "I am convinced," she says, "that for many adults educational institutions provide support structures for negotiating life transitions." She calls it "an imperative for growth," and despite their different backgrounds, adult learners have much in common. "They are people who have chosen to reach out for something new. At any life stage, the choice to enroll is an act of faith that is reaching-out for something beyond one's grasp, a declaration that action will have a hoped-for result."

Gordon Cowperthwaite
Associate Professor, College Without Walls
Sinclair Community College
Dayton, OH 45402

THE OHIO TECHNOLOGY TRANSFER ORGANIZATION AND ITS ROLE WITH TWO-YEAR TECHNICAL EDUCATION IN OHIO

KIM BONEWIT

The state of Ohio has experienced many of the financial ills other midwestern states have encountered over the past several years. Some of Ohio's difficulties can be traced to a private sector business and industrial environment which suffers from many of the same woes. Low worker productivity, obsolete machinery and methods, and a lack of sufficient stimulation in smaller business and industry have contributed to many companies leaving the state, thereby draining Ohio of its well paying jobs, future economic development, and the financial resources to support the state's 12 four year-universities, and 25 two-year community and technical colleges. It has been suggested, ironically, that the resources necessary to keep Ohio's business and industry viable and growing can be found in the state's higher education system, and within a variety of public (both state and federal) organizations where access by the private sector is difficult.

Rather than complain about what could, or should be done, Ohio has taken a leadership role in the exchange of technological information with the establishment of the Ohio Technology Transfer Organization (OTTO). OTTO was founded in 1979 by the Ohio Board of Regents, who governs the two and four year colleges within the state, and is funded for the bienium by the State Legislature.

How Does OTTO Work?

A Partnership needs to be established between the ultimate users of technical information, which includes small business and industry, and the generators of that information – generally federal laboratories, research and development firms, and of course the state's two and four year colleges.

Originally, the Ohio Board of Regents strategically placed technology transfer coordinators at thirteen of the state's 25 two-year community and technical colleges. Using the successful format of the county agricultural extension agent as its model, each participating college employed an OTTO coordinator to assist its region's business and industry. Each coordinator's primary function is to assume an active, personal role in providing technical assistance to these organizations on a one-to-one basis. The coordinator attempts to make a minimum of ten new contacts each month, as well as confidentially respond to additional requests from current or former clients. The OTTO coordinator's mission can be summed up in the following statements:

1. To work at the grassroots level to impart current or newly derived knowledge to Ohio's small business and industry.
2. To provide technical assistance to those small businesses or industries who currently lack the capacities or access of their own to retrieve technical data.
3. To respond to specific requests for technical assistance, be it for lower level information or for high "state of the art" technology.
4. To encourage Ohio's business and industry, through awareness programs, to incorporate new levels of technology into their current

methods with the hopes of increasing productivity and reducing employee turnover.

5. To actively develop innovative strategies to attract new industries to locate in Ohio.
6. To work with the leading industries within each coordinator's region to strengthen the current economy and enhance future economic development.

In July of 1983, the organization was moved into the Ohio Department of Development. Twelve new agents were added by January of 1984.

OTTO and Ohio State University

Ohio State University, as one of the largest educational institutions in the United States, acts as the administrator and research coordinator for the organization. A full-time administrator and two research assistants aid the coordinators by accessing computerized data bases, such as the National Technical Information Service and Mechanized Information Center at OSU. Other industry related data bases are also available with a user fee for computer time. The organization also has an excellent working relationship with the directors of the Federal Laboratory Consortium, a network of over 200 member laboratories. In 1982, three technical specialists were employed to further assist each coordinator in the fields of business management, marketing, and engineering. Additionally, faculty members at Ohio State University and other four-year universities within Ohio are called upon to bring their specific expertise to bear in solving a client's problems.

OTTO and the Community and Technical College

The community and technical colleges were chosen as the educational institution to house the OTTO coordinators for several important reasons.

1. Ohio's community and technical colleges are regionally located and spaced in such a way as to permit each coordinator to serve a five or more county area.
2. Each community and technical college has certain unique technologies which may have an immediate impact on the business and industry in its respective region.
3. Community and technical colleges are highly accessible to the people within the communities they serve.
4. Business and industry in Ohio are better served by a "network" of coordinators, assisting one another, with technical expertise which is available from each of the coordinator's home campuses.
5. To assist each college in providing increased opportunities for faculty and business interaction, with emphasis placed on bringing faculty members' expertise to bear in solving clients' problems.

OTTO and Hocking Technical College

OTTO has a very special relationship with Hocking Technical College. The college is located seventy miles southeast of Columbus, Ohio, nestled in the hills of the Hocking Valley. Hocking Tech has a number of unique and innovative technical programs, many created to serve the leading industries in the region. The Forestry, Sawmill Operation, and Recreation and Wildlife technologies offer students an opportunity to learn and earn in one of the finest hardwood regions of the United States. Students in the Hotel and Restaurant Management, Culinary Arts, and Travel and Tourism technologies benefit from training in a 40 unit, full service, motor lodge owned and operated by the college. The Ceramic Engineering technology was the first in America to provide two-year training of technicians in an industry oriented program for the ceramic industry, which is heavily concentrated in southeastern Ohio. Hocking Technical College is the only college in the nation offering two-year training in Heat Processing technology. This program, along with Ceramic Engineering, provides the highest paid salaries for entry level technicians of associate degree programs offered by Hocking Tech.

With the wealth of knowledge in these technical specialties, the OTTO coordinator at Hocking Tech places special emphasis on working with business and industry in these fields.

Faculty and technical staff cooperation at Hocking Tech has been enormous. These individuals, working with local industries, have opened many doors for the placement of graduates, part-time employment for current students, and scholarship opportunities for future students. In many cases the faculty and technical staff members have been compensated for their work by released time, extended summer contracts, and consulting fees paid by the companies for longer, more time-consuming projects.

OTTO/HTC Actual Cases

Below are some examples of technical assistance which OTTO at Hocking Technical College has been able to provide to local businesses and industries:

A local company which manufactures powdered metal products experienced difficulty with surface rust on certain parts. The company requested OTTO/HTC's assistance in finding a better rust preventor or inhibitor for their products, listing several requirements as prerequisites for the selection of the rust inhibitor. With those in hand, the OTTO coordinator called Battelle Memorial Institute, Columbus and NASA's Lewis Research Center, Cleveland. Both recommended a rust preventive which uses "vapor phase inhibitors." They indicated this type of preventive would probably enhance the ability of each part to prevent rust, since a P/M part is very porous in composition. The OTTO coordinator subsequently arranged for samples of each inhibitor to be sent directly to the company for actual testing. One product was found superior and selected because it could be potentially recycled through the tumbling machinery, where the P/M parts receive a coating of rust inhibitor.

As a result, the company anticipated a potential savings of two to three thousand dollars a year for chemicals. In addition, longer shelf life of the P/M parts, coupled with a reduced rejection rate from customers, is immeasurable!

Southeastern Ohio is one of the richest hardwoods producing areas in the United States. The region supports numerous logging, sawmill and wood processing plants. One such plant is the largest manufacturer and distributor of maple "butcher block" tables in the world. It also kiln dries over ten other hardwood species for distribution to high school woodwork-

ing and industrial arts classes. Unfortunately, they were relatively unknown to local (within a 100 mile radius of the plant) furniture craftsmen, woodworkers and retail lumber stores. The OTTO coordinator developed a marketing program and arranged plant visits for the woodworkers, craftsmen, and lumber buyers from the retail lumber stores. This helped establish a new source of materials for local clientele. The first half of 1983 saw $35,000 in sales, with a projected $100,000 sales volume by the year's end. The addition of two new employees is currently being considered to assist with the sales and delivery into this previously untapped local market.

As mentioned earlier, Hocking Technical College is proud to have the foremost two-year Ceramic Engineering and Heat Processing technologies. The high calibre of engineering talent in those areas enabled the OTTO coordinator to assist a company who wished to reduce its energy costs for the operation of a heat cleaning oven.

The company is a producer and supplier of resin impregnated fiberglass cloth. Much of the finished material makes its way into fishing rods, surfboards and "hot sticks" which are used by electric power companies to move high voltage wires from one place to another. Before the resin can be added to the fiberglass cloth, the material must be heat cleaned at about 700°F to remove the "sizing" which has coated the glass fibers to keep the cloth clean during shipping and handling. The heat cleaning process was taking about 96 to 104 hours. This limited the turnover of the oven when demand for the fabric was increased, and the company was spending nearly $100,000 in yearly energy costs. The company's general manager had hoped to decrease the processing time 25 percent.

The OTTO coordinator and a ceramic engineering faculty member visited the plant and the engineer determined that a 25 percent reduction was realistic. The engineer made several specific recommendations concerning the reconfiguration of the oven's burner and the installation of multiple excess air burners. If the company proceeds with these recommendations, it can expect to save $20,000 in yearly energy costs. The changes would also decrease the oven's turnover time by 25 percent.

One of the more pressing needs by small business and industry in Ohio is in the area of middle management development. To meet these needs, the OTTO coordinator has developed a subscription style service for management seminars. One three-hour seminar is held each month for ten months. To provide maximum flexibility, a company may purchase a subscription so it can send varying personnel to each session. The actual seminars are intense and very practical. The participants are strongly encouraged by their employers to implement some of their newly acquired knowledge into their current position and work environments. Twenty-five percent of the companies' tuition fees are earmarked for OTTO-sponsored student scholarships within the college. Having the seminars on the college campus permits the participants to learn more about additional course offerings and associate degree programs.

Hocking Technical College has become very concerned about its own energy costs. Toward that end, the college has drilled (with the actual drilling performed by the school's petroleum production classes) and is operating its own oil and gas wells. The college is using the compressed natural gas to power its fleet of vehicles and is considering converting its electrical heating and air conditioning systems to natural gas.

Because of Hocking Tech's commitment to oil and gas production, the OTTO coordinator is working closely with a local research and development firm which is developing "state of the art" natural gas applications using the Sterling engine.

The Sterling engine, sometimes called the hot air engine was invented in 1816 by Rev. Robert Sterling. The engine is an external combustion engine which may derive its source of energy from concentrated solar energy, or it can burn coal, straw, wood, sawdust or any other combustible substance imaginable. (*Near Term Marketable Products Involving Sterling Engine Technology* by Sunpower Inc., Athens, Ohio, 1982.)

Conclusion

The partnership between small business and industry and the educational resources in the state of Ohio is crucial. Toward this end, the Ohio Technology Transfer Organization is serving both these sectors. In the decade to come, the fruits of this important linkage will become quite evident. With the help of OTTO, Ohio will meet its financial challenges, retain its well paying jobs, promote future economic development, and provide the necessary resources to maintain a viable and growing higher educational system.

Kim Bonewit
Coordinator of OTTO
Hocking Technical College
Nelsonville, OH 45764

PLUS ONE

Our Plus One article for this issue was written for the National Journal. *This article was selected by a number of instructors in the field of Business Technologies who felt that it should be shared with other faculty members in two-year colleges.*

AN OPEN FORMULA FOR EFFECTIVE COMMUNICATION

JANE DURVERRY

It is the rare bird who does not recognize Einstein's famous formula for the conservation of matter and energy: $e = mc^2$. Formulas can also be useful to someone who wants to focus energy on matters less exactly measurable. Einstein himself wrote another formula few people know:

$$X + Y + Z = SUCCESS$$

He said that X represents hard work, Y represents play. Someone asked him what the Z stood for.

"That," said the genius, "is the ability to keep your mouth shut."

We learn by listening, not by talking. When we are briefly responsive, and listen considerably, we bolster the other person's ego. When a situation is tense, listen. When someone is angry, let him talk, be brief when replying.

When someone is unhappy, be brief, and listen.

Here is a formula for effective communication:

$$C = WA^2$$

Where:

C stands for effective communication
W stands for personal *warmth*
A stands for vigorous *action*.

Warmth is a quality that must come naturally, since any strain to appear warm would be unpersuasive. A large part of the factors that contribute to warmth is Einstein's Z: the ability to listen. Language is not effective unless it is understood and heard by the other. Listening enables one to learn what type language the other is most likely to like; listening also enables one to learn what it is the other wants to know. When you listen carefuly to the other, an arc of warmth is generated between both of you, making the conversation more pleasurable to listen to, resulting in better communication.

Also, it is a well-known fact that most people appreciate approval and recognition. If you like me, and think what I say and do is important, competent and likable, I want to know! Of course, this realization should not lead to flattery, but should promote our readiness to give people the feeling of social approval and recognition they deserve. Let this idea guide your communications in school as well as at work.

As Harry Lorayne says: "Everybody looks for and desires approval – to be liked and appreciated by others. And those who act as if they don't want – or don't care for – approval, desire it most of all, I believe. They are, perhaps, too wrapped up in themselves – which, incidentally, makes a small package."

Warmth emanates from seeing the other for what the other is, appreciating the other's individual characteristics and respecting the feelings of the other (even if you don't respect the other's standards). Although, in the formula, less warmth can be compensated for by increased action (for there are some people who get nervous and therefore less communicative if a certain threshold of warmth is crossed), it is also true that no warmth will lead to no effective communication, no matter how vigorous the action – for zero times anything is zero. At the very least, warmth for the other's needs or feelings is a natural possibility with any human being. No warmth, no communication – in this sense, our formula is consonant with another formula, a time-tested universal law:

> If I have all the eloquence of humans or angels, but speak without love, I am simply a gong booming or a cymbal clashing. If I understand all the mysteries there are, knowing everything but am without love, then I am nothing at all. (1 Cor. 13:1-2)

Indeed, what is to be gained by spending energy cutting off warmth that is wanted and/or needed?

A^2 is action times action, the square of itself as the square of the speed of light is in Einstein's formula for energy. The effective communicator is

active listening, as well as when speaking. The action of attention compounds both the action of listening, as well as the action of speaking. When speaking, one must be attentive to both the vocabulary used as well as the tone of voice and rhythm of speaking. An attentive speaker acts to sound like music to the other's ears. The action of attention multiplies the actions of listening or speaking into effective communication, communication that actively *happens*, you *do* it, both do it together. This action of attention requires an effort to be sure, but it is a natural effort, and as such, easier than the effort to make yourself not do it. The fruits of attention and readiness are described in this passage: "You can direct your thoughts and control your actions, and thus regulate your attitude. You can choose whether your attitude will be good or bad. You can decide whether you will affect, use, control, or harmonize with the changes in yourself and your environment."

Milton Wright put it this way: "There is no limit to the ways you can adapt yourself to the other fellow, and it does not take any great amount of ingenuity, either. The key to the whole situation is this: like the other fellow and act as if you like him." Or: treat the other as you would like the other to treat you.

An effective teacher is one who communicates effectively. The teachers we all remember are the ones who made a personal impression on us, not necessarily the ones who knew the most. The ones who taught us the most are the ones who actively treated us with warmth and respect. A professional child psychologist observes: "Students emphasize the teacher's qualities as a human being and the emotional qualitities that he brings into his personal relationships with his students far more than his academic competence."

An attention to vocabulary increases the effectiveness of communication (measurable by better sales, more enthusiastic students, smoother love relationships, etc.). Attention to the other's responses and vocabulary actively informs the effective communicator the degree of color to add to the vocabulary, the correct temperature of the words used. Different words have different degrees of warmth and/or action. As the following table shows, a word indicating the same object can be found for whatever temperature is called for: *hot, warm, lukewarm,* and *cool.*

Just as there are degrees of temperature for words (as found in the factor W) there are degrees of action in the factor A^2. The following table shows these degrees as *vigorous, strong, neutral* and *slow*. No one category is better than the other – it all depends on the ways of listening and speaking of the two communicating.

The Formula in Action

The formula stresses specific selection of words, images, and degrees of connotation, all designed to influence listener(s) favorably. Implied in this formula is a tailoring to life styles and self-concepts

Assume you're teaching improvement of communication in a freshman course. You choose an article from your daily newspaper, perhaps an article on weather. You assign a rewriting exercise to thirty students, one of whom is Gwendolyn Furd, an energetic freshman determined to use the formula correctly. Her paper shows this:

THE CONCRETE APPROACH (the essential "her," 3rd person, minimum adverbs and adjectives, 12-17 words per sentence, hard-hitting all the way . . .)

"Hey, man! A big blow is coming out of the West. Ugh! Yuk! This means more rain and snow for Ohio. That blow right now is over Northern

HOT	WARM	LUKEWARM	COOL
SLANG! efficient but subject to mis-understanding	usable, quickly understood, common language	usable, understood	thought-and puzzle-provoking also affected
love apple	tomato	red things	tomahto

HOT	WARM	LUKEWARM	COOL
threads	dress	frock	gown
sawbones	doctor	M.D.	physician
quack	healer	medic	
grease monkey	mechanic	repairman	automobile repairman
juice	perfume	fragrance	parfum
body oil	salve, balm	ointment	la creme
threads	clothes	outfit	habiliments
hoofer	dancer	mover	dance artist
shrink	therapist counselor	psychologist	psychiatrist
	beauty parlor		hair salon
	barber shop		hair stylist
flick	movie	film	piece of cinema
	tailor seamstress	fashion salon	couturiere
spook	co-author	ghost writer	
rip-off	swindle	bad investment	
sob-sister	gossip columnist	society editor	
stew	stewardess	attendant	flight attendant
cops	police	the law	constable
	reward	gain	yield, pelf
tune	song	record	selection
heart's desire	what I want most	goal	ambition
poop (what's the poop?)	news	information	development of events
to con	to be false	to deceive	misrepresent
to goof to boo-boo	make a mistake	to err	to be wrong

VIGOROUS	STRONG	NEUTRAL	SLOW
slash	cut	split	divide
fire	ask for resignation	discharge	
urgent	much-needed	necessary	wanted
grab	get	get hold of	get in touch with
make him wait	tell him I'll see him in a minute	tell him to have a seat	ask him if he could wait a few minutes more
watching day and night	paying close attention	aware of	keeping in mind
embrace	agree whole-heartedly	agree	go along with
Sign!	this is where you sign	sign by the X	(hand over contract)
demand	ask	inquire	maybe look into

California and the Northern Rockies. Billings, Montana, a city smaller than Toledo, today suffers two inches of snow. This is a disaster; having all that snow dumped onto the Midwest's dry land! It hasn't rained in two weeks, and now snow! There're still rain clouds over the Tennessee and Ohio valleys."

"COOK BOOK" STYLE (present tense, 2nd person, no adjectives nor adverbs, 12-17 wors per sentence. . .)

Take raincoat out of closet. Put it on. Buckle up. Anticipate storm coming out of the West. Storm at present is over Northern California and Northern Rockies. Shovel Billings, Montana out of two inches of snow. Skies soon dump snow onto the Midwest's dry land. It hasn't rained in two weeks, two weeks. Expect results from raineclouds now over the Tennessee and Ohio valleys.

SCIENTIFIC STYLE (present tense, 2nd person, 12-17 words, etc. . . .)

Take 2 lb, 5-button, rain-proofed coat from 3 ft. x 6 ft. hall closet. Install 5 ft., 4 in. body into 2 lb. raincoat. Button 5 buttons. Anticipate 3-state, 60 m.p.h. rainstorm Tuesday, April 10th, 1977 at 5 a.m. Sixty m.p.h. rainstorm now over Northern California and Northern Rockies in 12 hours dumps 3 in. of rain. Ohio hasn't enjoyed rain in two weeks.

OLDER GENERATION STYLE (present tense, 2nd and 3rd person only, 12-17 words per sentence, no adjectives nor adverbs, etc. . . .)

"Auntie Boo, Auntie Boo, sit down, please. Gwendolyn has news. Gwendolyn wants Auntie Boo to take out her raincoat from hall closet. Put it on. Now get ready for a big rainstorm. The rainstorm's at present over Northern California and the Northern Rockies. It arrives here next Tuesday. Auntie Boo is going to experience 60 m.p.h. winds. So, dear Auntie Boo, Auntie Boo must button up her raincoat. Ohio hasn't had any rain in two weeks. It's awful getting all that water dumped onto Ohio's dry land! Boo hoo hoo, Auntie Boo!"

HUMOROUS STYLE (present tense, 1st and 2nd persons, 12-17 words, no adjectives nor adverbs, etc., etc. . . .)

"Exekiel, I wish thee to build me an ark. And put thee in plenty of raincoats. Thee and me have gotta get ready for a big rainstorm. It's over Northern California and the Northern Rockies right now. It arrives next Tuesday. Thou art to use American Steel & Wire No. 6 steeldrawn nails. Those elephants weight much. Thee and me haven't had any rain in two weeks. And Exekiel, hurry thee! It's beginning to cloud up! Great Jehovah, what a threat!"

Since we all use the same basic inventory of words to create our messages, it remains the task of the initiator, the assembler of spoken or written symbols, to put those words together in a manner that generates impact and understanding. In the case of a salesman, they must be clearly, compactly understood well enough to persuade. In the case of an advertising copywriter, they must be unique enough to stand out from the crowd. In the case of a job applicant, they must be assembled so they alone say: "I'm the best prepared to take the thinking load off your shoulders."

All of this is aided and abbetted by the formula $C = WA^2$, a useful guide to effective communication combining natural warmth with attentive, active speaking, and listening. It's still a two-way street. But sometimes communication is hastened, is made explicit, by the initiator's going 75% of the communicative route. That is, he tailors specifically for improved results.

This formula provides an easily accessible starting point when one is wondering how to improve communication, and a continuous checkpoint to keep effective communication effective as it goes through its different stages, rhythms, and results.

Jane Durverry
Staff Writer
National Journal of NAME
Toledo, Ohio 43601

FORUM:

ISSUE: SHOULD MERIT PAY BE USED TO REWARD OUTSTANDING TEACHERS IN TWO-YEAR COLLEGES?

National attention has recently been focused intensely on the educational system of our country. During the recent national debate on education, many opinions were expressed on how to improve our schools. President Reagan advocated the controversial idea of "merit pay" for teachers, and as a consequence, generated much public attention to the idea. The writers, Ann Peterson and Jack Tabor, of Columbus Technical Institute, present arguments for and against "merit pay" in the two-year colleges.

IT'S TIME TO RECOGNIZE AND REWARD EXCELLENCE IN TEACHING

ANNE R. PETERSON

Issues of merit recognition and merit pay in the educational environment of the 1980's ultimately coalesce around the conflict of how to serve the public good and reconcile that with personal goals and motivations. Educational institutions increasingly are being required to demonstrate that they are accountable to the "clients." A two-year technical or community college that fails to provide an adequate education for its graduates which prepares them to confidently assume a desired occupational role or to further their education in another context becomes liable for that failure in the same way that it does if it does not provide equal employment opportunity or due process of law to its employees.

At the same time, individuals enter teaching with expectations about how they will conduct themselves and be rewarded. Many teachers, particularly in the two-year college context, deliberately choose teaching as an alternative to the "rat race" of business and industry and actively reject the sort of supervision that occurs in that setting in favor of the independence and self-direction that teaching can provide.

Somewhere between these two perspectives is the potential for a dynamic compromise that would enhance teaching and reward outstanding instruction for the benefit of the institution at the same time that individual instructors would receive the recognition that they deserve for holding to professional standards of performance. That arena of compromise, in my opinion, can be found in the development of a fair and comprehensive appraisal system which discriminates levels of performance among a group of faculty and which could be used to recognize and reward outstanding performance within that group. Merit pay is only one way that an outstanding individual could be recognized. Other options are teaching awards, opportunities for released time to work on special projects of interest to the instructor or to travel, attend conferences and so on, and stipends to further educational preparation.

I am less concerned about the *form* of the reward than its existence, and I feel strongly that an ongoing appraisal of faculty involving some combination of supervisor, peer, student, and self-review would have the following four positive benefits.

(1) Standards would be defined. I believe that the construction of an appraisal system for teaching is a valuable institutional exercise because it requires, under ideal circumstances, that a college pose the following question: What type of teaching do we think is worthwhile for us? To the extent that this question is asked and systematically and carefully answered – and the extent to which all interested individuals have an opportunity to respond to it – is the extent to which a college has the very positive opportunity to define its standards and the philosophy underlying them. This process of inquiry, again under ideal circumstances, should never be concluded once it is underway. Any appraisal system that is implemented needs constant revision and re-tooling. It should be, in fact, a "living" system that at any moment in time reflect the values of the organization it stands for.

(2) Standards once known could be met. The whole purpose of an appraisal system is to determine whether certain defined levels of performance are being adhered to. Part of this involves the idea that people will strive to meet the expectations held up for them. An appraisal system which has been developed within the framework of an institutional "dialogue" thus can serve as a guide for those who work within it. For some, an appraisal system will provide an opportunity to demonstrate that they are already meeting the desired standards of performance. For others, appraisal will highlight areas where they need improvement and further work. Speaking as someone whose responsibility is employee development, nothing makes more sense to me than a system that can provide information about desired behaviors, identify areas of needed improvement, and provide opportunities for improvement which I think is the whole purpose of employee development. If appraisal is used only to identify and punish, in some way, poor performance, then it is badly used. The opportunity to improve through some form of development effort should be part of any appraisal system.

A great deal is written about the fact that no one can actually define good teaching, and, in my opinion, that is true from a global perspective. But good teaching *can* be defined within a particular college striving to meet the needs of a particular group of students, and once that has been done, it seems that teachers would generally welcome the opportunity to give up vague ideas of what is expected of them in order to devote their time and energy to meeting their own organization's performance goals.

(3) Standards would help supervisors become more effective. Many individuals who teach in a two-year technical or community college do not necessarily have a background in educational methodology. Department chairpersons are frequently promoted from the ranks of faculty and share their uncertainty about "good" teaching practices which makes it difficult for them to provide guidance and assistance to their faculty members. Once an appraisal system is instituted, the department chairperson can begin to work with his or her faculty members within a clearly defined set of

guidelines in order to insure good teaching practices. Furthermore, a formal appraisal system provides an opportunity which many instructors say they would appreciate; namely, to demonstrate their teaching ability to their department chairperson and be complimented on it. Much of the current writing and research in management indicates that managers need to learn how to recognize and reward the performance of those they supervise. An appraisal system would help department chairpersons do this more effectively. It is my feeling that the great majority of two-year college teachers are responsible and committed professionals who would like a chance that they seldom have to qualify for a "pat on the back" from their colleagues and supervisors. To the extent that an appraisal system would set the parameters for an inquiry into teaching excellence on the part of a department chair and his or her faculty, is the extent to which it would help that person become a better informed and more personally responsive manager.

(4) Standards would help to recognize and reward outstanding performance. An appraisal system can be used only to insure that standards of performance are met or it can be used to rank individuals and identify those who are doing an outstanding job within the system. Here is where controversy really enters the appraisal process. Is a person's appraisal a "private" document? Should we single out and reward in some special way individuals who are "better" teachers than others? To answer the first question, obviously, the elements of an individual's appraisal must be handled in a systematic and confidential manner, but that does not mean that information acquired about development needs should not be aggregated for use by the faculty development office or that "poor" teaching should be tolerated and allowed to continue. As has been mentioned, a college is responsible for the quality of its programs and its teachers such that any evidence of poor quality must be recognized and remedied. It is possible for even one teacher to seriously damage the reputation of a college within a community, and, from that perspective, appraisal cannot be strictly private. It is undertaken to serve organizational goals, and, to the extent that an individual is not working to serve those goals, he or she must be put on notice.

But what about individuals who are not problematic and, in fact, are doing a consistently outstanding job in their work. Should their performance be noted in a public manner? I think that it should for several reasons. First, teaching is a profession that requires its practitioners to labor more or less consistently without benefit of regular feedback. This is certainly the case in a two-year school where students tend to be commuters who attend on a part-time basis and thus are likely to register and attend classes on the basis of convenience rather than allegiance or commitment to a particular instructor. Unless a former student makes a special effort to be in touch, a teacher seldom has information about his or her long-term impact. Short term rewards may not be a way to remedy this situation, but, at least, they would partially fill the "feedback vacuum" that teaching ordinarily provides. Secondly, teachers identified as outstanding by a fair and carefully developed appraisal system can serve as models to others within the system. They can even take on the role of "master teacher" and make themselves available to new and inexperienced teachers for assistance. Finally, a college which rewards good teaching makes a clear statement that it values good teaching and intends to insure it. In the two-year college context, there is no greater challenge for a faculty member than to strive to be a professionally competent, informed, and concerned teacher. In light of this fact, I say that we should use merit recognition and, where appropriate, merit pay to recognize and reward outstanding teaching in the two-year college world.

Anne R. Peterson
Coordinator of Employee Development
Columbus Technical Institute
Columbus, OH 43215

NO TO MERIT PAY

JACK TABOR

The issue of merit pay for outstanding teachers pits the President, governors and legislators against teachers' unions, and teachers against the community. Polls show that both the teachers and the public are willing to accept some form of performance-based pay, but neither should be deceived into believing its achievement will be easy. Discussion of the issue is characterized by emotion, rhetoric and oversimplification. And merit pay has now become a hotly debated issue in the two-year colleges of Ohio even though the President's Commission made no mention of merit pay above the high school level.

Merit pay most often is defined as a system that rewards outstanding teachers by either a bonus or an increased annual salary.

Reasons for establishment of a merit pay system include:

1. To promote and reward the exceptional teacher, thereby increasing the quality of teaching and providing ample incentive.
2. To improve education by upgrading the profession.
3. To attract and retain the most able teachers.
4. To increase learning in the classroom.

To achieve these needs, there are two general forms of merit pay: performance pay and the career ladder.

The performance pay system would base salary on what an individual teacher does, how an individual class performs or whether school-wide goals are met – a combination of output and input. Performance pay would provide rewards in dollar terms but could include sabbaticals, tuition assistance or other bonuses. Performance pay would provide no sustained pay increase, though teachers might be eligible each year. There would be no increase in duties per se and no special recognition. In fact, where such systems exist, merit awards in two-year colleges are usually secretive.

The career ladder system creates tiers from apprentice through master teacher with differences in pay and responsibilities. This is similar to the instructor to professor ranking system which exists in most Ohio two-year colleges. Various colleges have different ranking structures, but in all of them promotion in rank is tied to salary. However, if a career ladder system were adopted, whatever the criteria for determining salary, classroom performance and teaching excellence would predominate. And this could be assessed only by supervision – department chairmen and deans.

According to Albert Shanker of the A.F.T., "There is no merit in merit pay." And Willard McGuire of the N.E.A. says, "The most serious fault is that merit assumes that only a small percentage of teachers are meritorious

and that they can be identified." Unions perceive that teachers distrust merit pay for two reasons: First, a merit system is hard to operate because it is more difficult to evaluate outstanding teaching than to recognize poor teaching. Second, merit pay can change colleagues into competitors. For a long time, many schools have paid a few people more so that they could pay many people less.

Neither merit system—performance pay nor the career ladder—seems to work. The trend in both public schools and colleges is not to reward the truly competent teacher but the highly visible and vociferous one. Also rewarded is loyalty to the administration. This tendency inhibits open criticism, even if it is constructive. Further, if the files of outstanding teachers are confidential, these teachers cannot possibly serve as models for those who fail to measure up.

Some Ohio two-year colleges require extensive documentation of excellence—up to ten pages. Gathering "proof" of merit is so time consuming that it rewards the person who takes the time from teaching to do "busy work." It rewards the clerk rather than the teacher, and most will not bother with this task.

Any proposed or existing merit pay system raises specific questions that must be examined: What criteria should be used to determine merit? Are teachers to be involved in the establishment of a merit system, and how? What appeals mechanism should be included? Can either of the two plans address other problems in the classroom and in the school (discipline, overcrowding, maintenance)?

The National Commission on Excellence in Education concluded that two few academically able students are attracted to teaching. Colleges and universities offering teacher preparation programs should be judged on how well their graduates do in the classroom. Salaries for the teaching profession should be increased and should be professionally competitive, market sensitive and performance based. Master teachers should be involved in designing teacher preparation programs and supervising teachers during their probationary years. However, proponents of merit pay fail to spell out how either plan achieves any of these.

In fact, none of the major national reports on education recently released conclude that merit pay is the answer to the nation's educational problems. *A Nation at Risk* never mentions merit pay. Margaret Marston, who served on the National Commission on Excellence in Education, testified before the Congressional Task Force on Merit Pay: "Although this issue of merit pay is a useful lightning rod for drawing attention to the question of teacher quality and remuneration, it was not . . . the central concern regarding teaching . . . Our central issue is that the professional working life of teachers is on the whole unacceptable."

But the question should be: How does merit pay specifically increase learning in the classroom? Neither plan addresses this question. When it comes to merit pay, however, specifics are everything. It is virtually impossible to discuss any kind of incentive pay plan intelligently without knowing how teachers would be evaluated; how those in different subject areas would be compared; how much of a raise outstanding teachers would receive; or how many outstanding teachers a college can afford.

Merit pay plans have been used in public schools and colleges for almost a hundred years. But there is little evidence that they have improved teaching or that they have increased learning in the classroom.

Jack Tabor
Instructor
Columbus Technical Institute
Columbus, OH 43215

PRACTICUM

ONE WAY TO HELP NONTRADITIONAL STUDENTS INCREASE IN PERSISTENCE AND COMPETENCE

BETTY M. DIETSCH

A divorcee with two young children, a young laborer laid off from his job, a grandmother, and a high school dropout—all these people have a common characteristic. They are high risk students. That means that unless they are offered extra help to ease the transition to college life, their chances for success are considerably slimmer than those of traditional college students. But these nontraditional students are enrolling at colleges and universities in ever-increasing numbers. At Marion Technical College, for example, the average student's age is nearly 28 years, a figure inflated by the enrollment of these students.

The sheer numbers of nontraditional students require that post secondary institutions respond to their needs not only for humanitarian reasons, but also for financial implications. With a dwindling pool of high school graduates to draw from, colleges and universities must court nontraditional students and provide survival skills to help surmount academic barriers. This means that more ways to increase student persistence and competence must be found. Aubrey Forrest, Ph.D., writes: "We propose that institutions focus on two broad objectives for general education:

- To increase student abilities and motivation to persist from freshman status to graduation.
- To increase student competence to function effectively in a number of adult roles after graduation.[1]

Dr. Elaine Hairston, Director of Special Programs for the Ohio Board of Regents, points out that remedial education is a vital factor in assisting high risk students to graduate. She cites recent research by Carson K. Miller, Engineering Technologies Division Chairman at Stark Technical College, that "convincingly demonstrates that developmental education courses early in college help students achieve academic success.[2]

For years Marion Technical College, like many academic institutions, has translated a concern for nontraditional students into actual implementation of remedial courses. But many high risk students bypass these courses because they think they do not need remedial work or because of the social stigma attached. In autumn quarter 1983, however, MTC ran two sections of a pilot course called "Library and Study Skills." The main purpose of this course was to promote efficient and self-directed learning. To accomplish these goals, the course was designed to develop "coping skills" so that high risk students might function effectively in college classes and on the job.

[1]Aubrey Forrest, Ph.D., *Increasing Student Competence and Persistence* (Iowa City, Iowa: The ACT National Center for the Advancement of Educational Practices, 1982), p. 4.
[2]Dr. Elaine Hairston, "Developmental Education: A State Perspective," *OATYC Journal*, 8, No. 2 (1983), 20-22.

Success in this course, we hypothesize, will increase persistence and lower attrition among high risk students; for these students often lack the ability to take adequate notes, to select main points in their reading, or to develop thoughts in writing. Few have ever used a library to research a topic and write a paper. When they encounter college assignments that require such skills, they are often frightened and unsure of how best to begin. However, when we help them *learn how to learn*, then they can acquire skills essential to lifelong learning and coping. And equally important, success in the classroom generates confidence and builds self-esteem, attitudes that, in turn, lead to persistence.

"Library and Study Skills" is a different kind of remedial course—not developmental, but concentrated and offering one hour of credit toward graduation. The decision to offer the course for graduation credit was not easily reached. The General Studies Department wrestled with the pros and cons of the issue. After considerable exploration, we concluded we could justifiably give graduation credit if (1) the course contained significant college level work, and (2) the workload were commensurate with other regular college courses. The second criterion was easily fulfilled: in the course syllabus students were advised that assignments would require a minimum of two hours preparation for every hour in class. In fact, we found (by soliciting student input) that several assignments were too time-consuming. For instance, writing a practice summary, estimated to take one hour or less, actually required two to three hours for most students. One student spent five hours writing and revising. (For this assignment, a shorter article has been substituted.)

But fulfilling the first criterion was demanding. We had to determine what essential skills students could expect to derive from the course. Then we devised lessons and assignments that would provide for experiential learning, a hands-on approach to using the library and to studying. This approach carried a basic assumption that students would be required to use the library to complete many of their assignments. (The instructors also took the classes to the library twice for brief tours.) Accordingly, worksheets (with point values for completion) were designed to familiarize students with the card catalog, the stacks, the *Reader's Guide to Periodical Literature*, and other special reference materials. A major assignment required students to research a topic in the *Reader's Guide*, read an article, summarize it, and write a reaction.

Preparation for writing this short paper included a brief review of transition, footnoting, compiling a bibliography, and clarification of writing summaries as well as the actual writing of a practice summary. (The instructors emphasized that all of these skills are transferable not only for papers and exams in other courses, but also for writing on the job.) Most of the material was explained clearly and concisely in the main textbook, a slender volume by Langan and Nadell entitled *Doing Well in College*.

A second basic assumption of the course was that students would learn and apply certain study techniques. This assumption was difficult to control. A class lesson gave practice in notetaking; a group discussion afforded a review of the SQ3R and PRWR study systems as well as a sharing of individual study and time management hints. Although a quiz tested only textbook learning, an essay question on the midterm exam measured experiential learning. It required students to compare and contrast the two study systems and to state a preference for one, based upon specific reasons. To promote application of the study methods, we advised students of the essay question beforehand. (Only one student was *unable* to answer the question satisfactorily. The others obtained at least 75 percent of the allotted points.)

A workbook (*Word Studies*, 7th ed., Lamb and Perry) provided experiential learning in using a dictionary. In addition, students and instructors brought a variety of dictionaries to class, looked up certain words, and shared meanings. This unit not only increased understanding and basic skill in using a dictionary (levels of language and etymologies were explained), but it also gave students a broader perspective of the evolution of language. One student, who had brought a paper dictionary with a 1958 copyright, declared: "I'm getting a new dictionary. This one is outdated."

For a course that meets only one hour per week during a quarter, the breadth of this course is extensive. Only with careful planning and simplified textbooks were we able to cover the material adequately. Course notebooks with worksheets and detailed lesson plans were prepared by one instructor, who had released time; another instructor acted as a consultant. As the course was taught, the two teaching instructors prepared exams jointly and shared quizzes, thus assuring consistency in the sections. Afterwards, the project leader revised the course materials as needed.

Response to the course has been overwhelmingly positive. Students were particularly enthusiastic about the time management, notetaking, and study systems units; for they could see the immediate effects upon work in other classes. Moreover, five nursing students, who were taking the course along with freshman composition, said the library unit and summary writing were very helpful—"a real confidence-builder." After completing the course, most students said they felt much more competent to cope with college assignments.

Instructors who designed and taught the course are satisfied that the level of difficulty is appropriate. In one section of fifteen students, only two received A's, eleven received B's, one a C, and one an F. In the evening section there were four A's, nine B's, and two F's.

Directors in other departments are well pleased with random comments solicited from students who have taken "Library and Study Skills." In fact, some directors would like to require the course in their programs. One disadvantage, however, is that scheduling of one hour poses problems. Instead, they would like to schedule a two-hour course in order to fill scheduling blocks and better accommodate student needs.

Currently, the General Studies Department is considering expansion of "Library and Study Skills" to include a module on thinking. This unit would aid students in developing conceptual, analytical, and interpretive skills. For example, worksheets requiring formal sentence definition, classification, and problem solving would be designed to challenge the mind. Case problems and other small group exercises would also encourage and stimulate thinking. The course, thus expanded to two credit hours, would better help students not only to increase in academic competence and to persist until graduation, but also to function effectively in adult roles.

Betty M. Dietsch
Communications Coordinator
Marion Technical College
Marion, OH 43302

WASHINGTON TECH LOOKS TO A NEW SPACE AGE

ANN TIBER

"Use it up, wear it out,
Make do, or do without."

"Make do" is what Washington Tech does.

For the past several years the students at Washington Technical College have been car-pooling not just to save money but to have enough parking spaces for the number of cars. During the first year of operation of Washington Tech, students met for classes in several rented rooms in downtown Marietta while construction of a permanent building progressed. Fall quarter of 1972, WTC moved to its present location on State Route 676 west of Marietta, and in June 1973 WTC granted its first associate degrees to five candidates. The college was originally designed to accommodate five hundred students. Students could select a program of study from one of four business technologies or one of four engineering technologies and receive instruction in several of fifteen classrooms and laboratories. Between classes these students could study in a small but adequate library, relax or eat a sack lunch in a small but adequate student lounge.

In twelve years enrollments have increased to almost twice the number for which the school was designed. New programs have been added along with more laboratory facilities. However, to house these additional laboratories, WTC went off campus to rent space. Students in the Automotive Diesel, the Welding, and the Medical Laboratory Technologies must travel several miles between classes every day. For the increased enrollments, WTC had to schedule more sections of Communication Skills, Mathematics and other academic courses. Now it is common to see Communication Skills II being taught in the Electronics Lab or Principles of Economics being taught in the Drafting Lab. A mathematics professor from Pennsylvania State University visited our campus last year, noticed the crowded conditions and remarked, "The taxpayers are certainly getting their money's worth!"

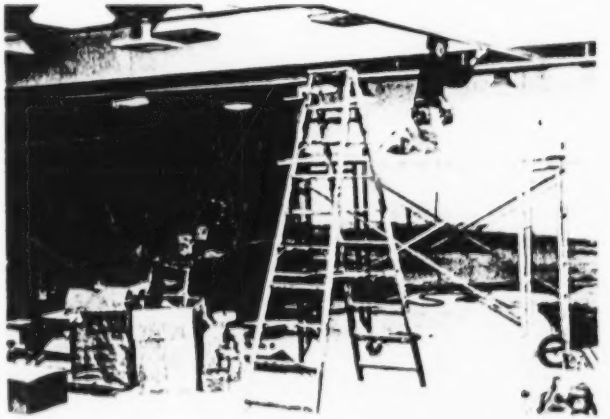
Through the years some programs have been dropped, some programs have had major options added, and new programs have been added. Today a student at Washington Tech may choose one of nineteen possible associate degree programs or program options in either engineering, business, health or natural science technology. And for the student who does not have the time, money, or inclination to complete an associate degree, WTC offers ten certificate programs that require nine or twelve months of attendance.

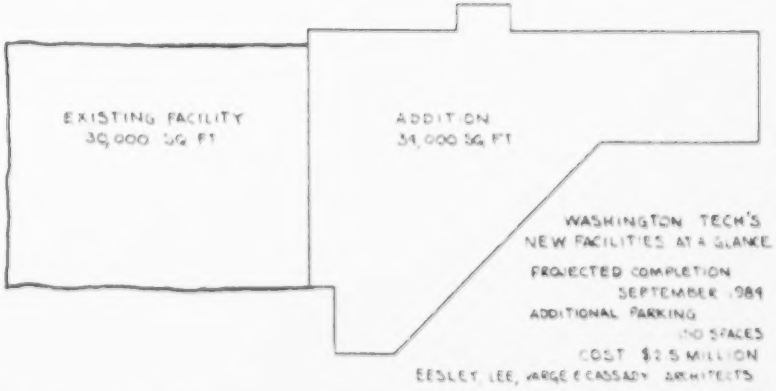
However a new "space age" is coming to Washington Tech. If everything progresses according to plan, the campus will more than double in size by fall quarter of 1974. The new wing now under construction will house shop facilities for the Automotive-Diesel and Welding Technologies and lab facilities for a fluids lab and a mechanics lab. The new wing will also house a new bookstore, a small cafeteria, several classrooms, student dining/lounge area and the library. Relocation of the student lounge will free space in the old wing to move the Medical Laboratory Technology chemistry lab onto the campus. The relocation of the library will make room for expansion of the Data Processing Technology computer lab and for faculty offices. Coupled with the construction of the new wing is construction of additional parking for 150 cars.

When all the dust settles, students will have thirteen additional classrooms and laboratories available for instruction, faculty will have offices that will be more private and secure, and administrative areas will be more efficiently arranged.

We anticipate the added space and facilities will make WTC more attractive to prospective students in the area, and we will continue to be a college where "the taxpayers get their money's worth."

Ann H. Tiber
Engineering Technologies Department
Washington Technical College
Marietta, Ohio 45750





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REACTION

The Journal encourages letters and articles in reaction to its contents, OATYC policies, and OATYC activities.

COOPERATIVE CRITICISM

HOWARD ERLICHMAN

Barbara P. Thompson's "Cooperative Composition: The Team Research Paper" (Autumn 1983) suggests another cooperative effort useful in the English composition class. Several Lakeland Community College English instructors involve their freshman English students in the process of critiquing students' writing. The class is divided into groups of three or four for each assignment; as the instructor gets to know the class, he or she can make certain that a stronger student is in each group. The group reads the papers submitted by another group, discusses them, and composes a comment summarizing what the members found especially effective about the paper, what questions it left them with, and suggestions for improving it in revision. The comments are focused on the clarity of the central idea, the logic of the organization of the material, and the effectiveness of the development of the supporting points; although the groups do not concern themselves with matters of grammar and mechanics, they do note the problems when they become obtrusive or cause serious confusion.

The instructor's task is to give direction to the group comments and to suggest standards for criticism. The danger is that students are reluctant to suggest anything about fellow students' work. Therefore emphasis on what can be done to improve the paper is encouraged. The advantages are increased awareness of the criteria for effective writing, a better sense of writing to a real audience, and an urgency to improve when it becomes clear that someone other than the instructor is concerned with the writer's improvement.

Howard P. Erlichman
English Department
Lakeland Community College
Mentor, OH 44060

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